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Bay Area's Computer Magazine

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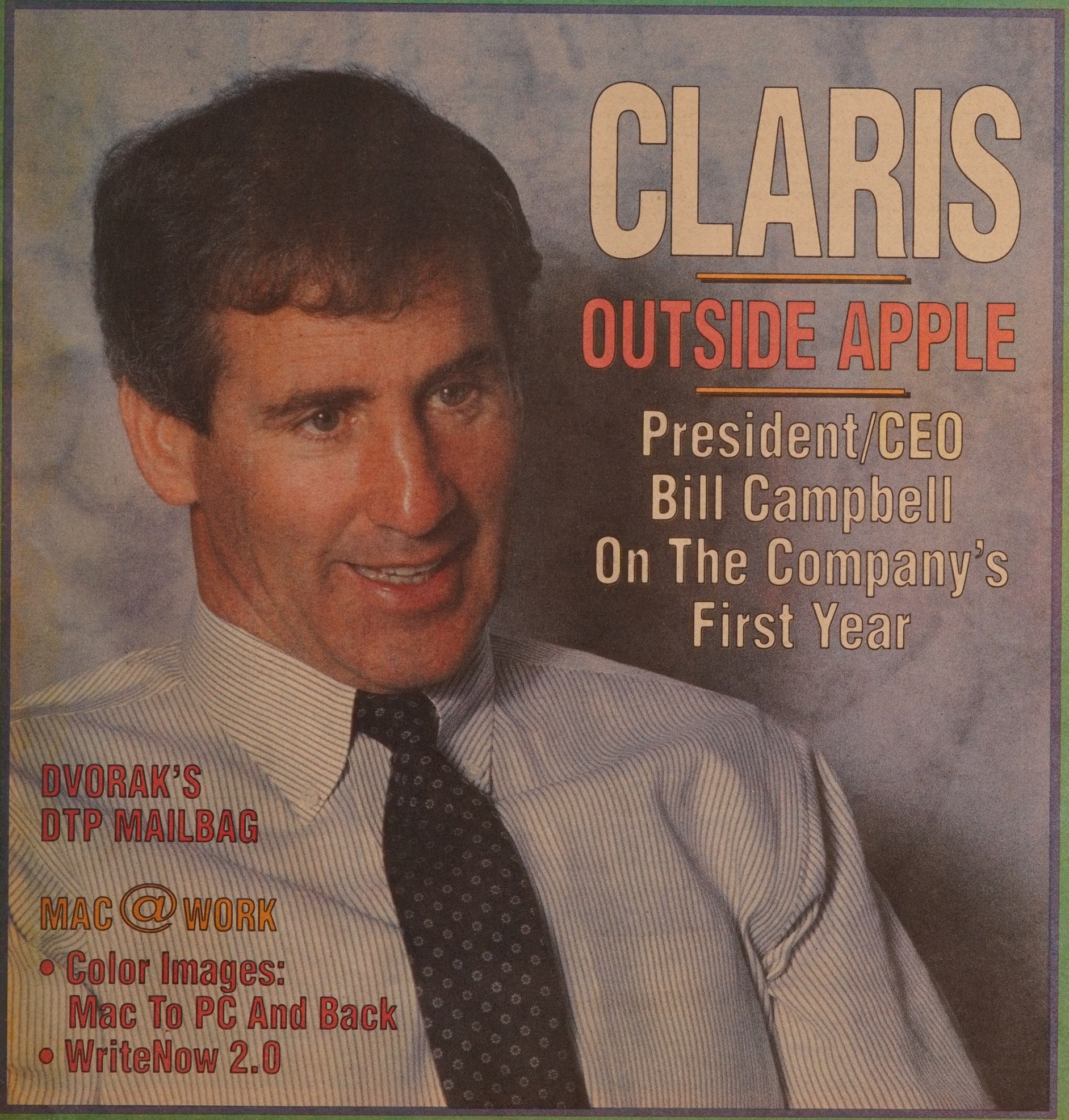

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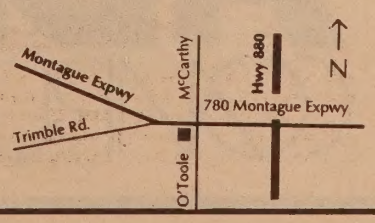

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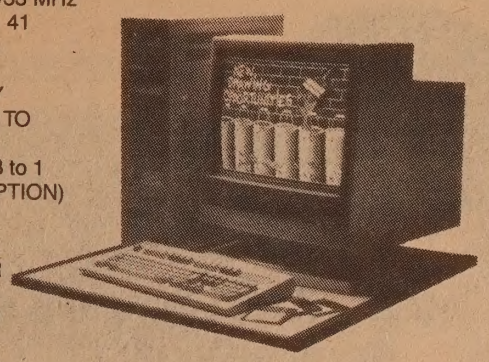

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Outside Apple
Bill Campbell
On The First Year At Claris

By Mary Eisenhart

Formed last year when Apple decided to get out of the applications software business, Claris has grown and matured considerably in its first year of existence. In this interview, president/CEO Bill Campbell talks about the company's startup days and plans for the future.

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Doug Engelbart

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Doug Engelbart: The Vision Continues

By Howard Rheingold

Somewhat ahead of his time when he envisioned such latter-day wonders as the word processor, the mouse, and the workgroup, Engelbart talks about his further ideas for augmenting the power of the human mind.

Mac @ Work

98 Graphics—PC To Mac, There And Back

By Lenny Bailes

First of two parts focusing on color graphics and how to move them between Mac and PC environments—inexpensively.

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Smaller than some desk accessories, economical enough for people spending their own money, and powerful enough for *Word* users to take it seriously, T/Maker's upgraded word processor offers impressive performance at a rock-bottom price.

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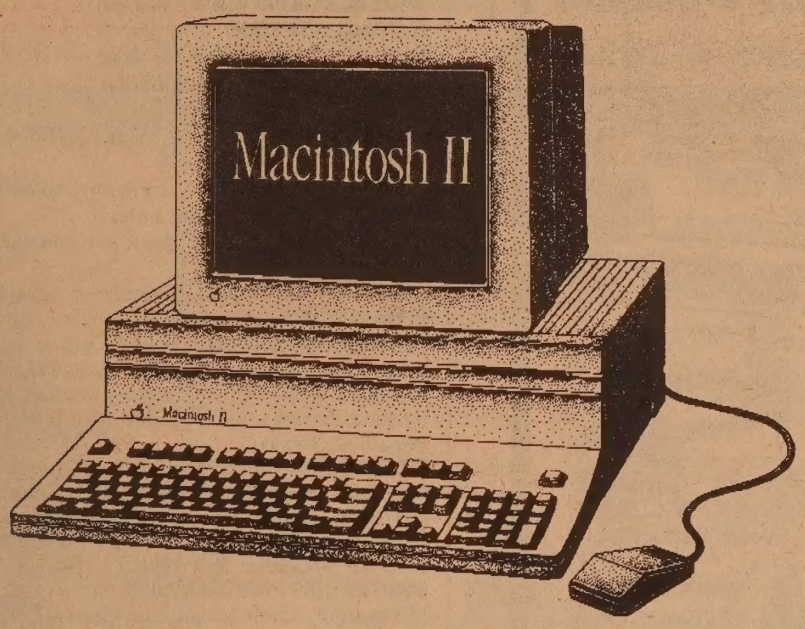

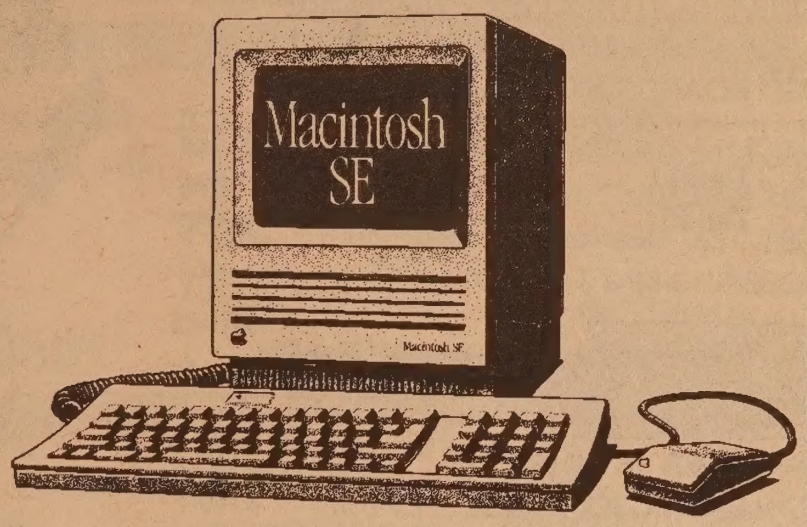

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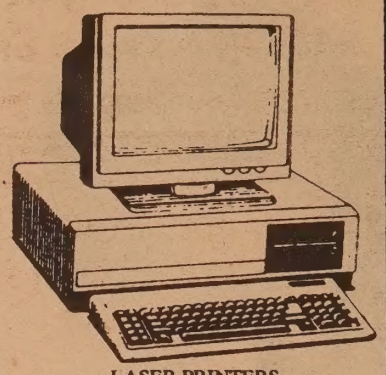

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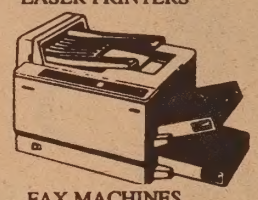

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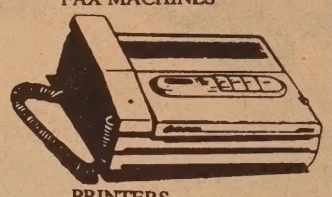

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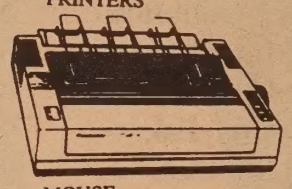

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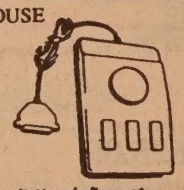

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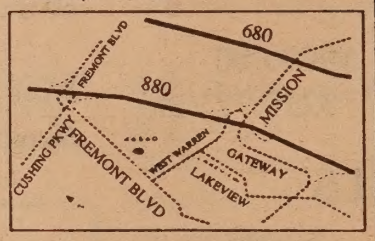

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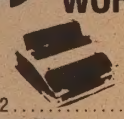
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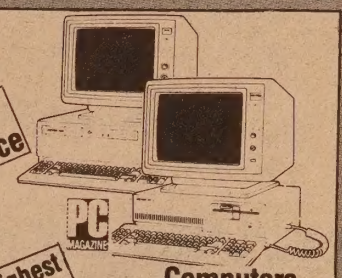

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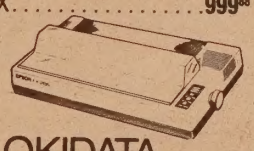

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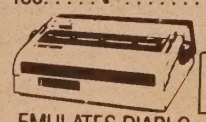

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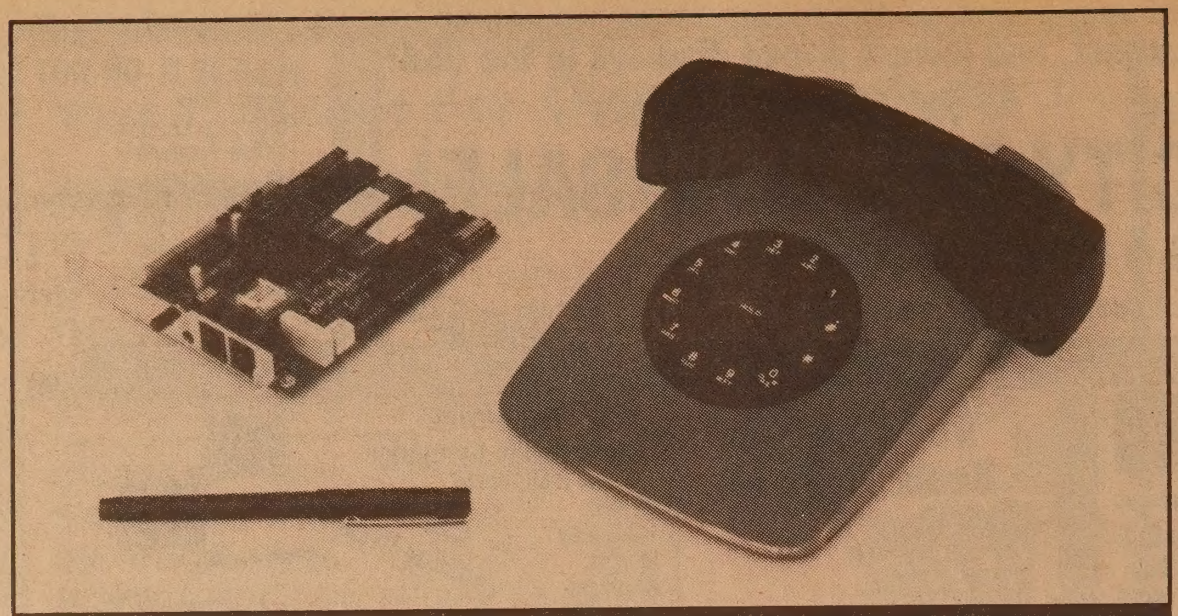

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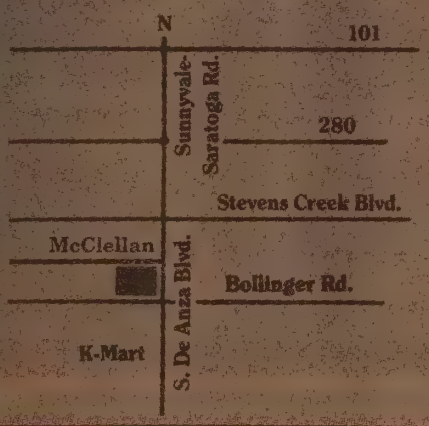

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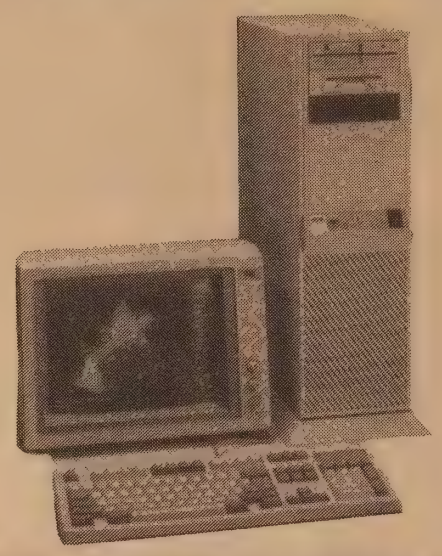

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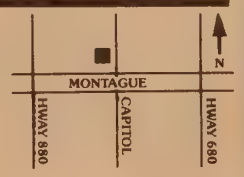

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January 26 Producing Your Resumé Class. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

January 26–28 1989 CRLD National Conference, "Computers And Learning Difficulties." San Francisco. Computer-Using Educators. Call: Diane Frost, (415) 222-1249.

January 26 Designing A Database System For Your Business Seminar. San Ramon. Longwell Associates. Call: (415) 848-2080.

January 26 Marketng SIG Meeting/SEF. Palo Alto. Software Entrepreneurs' Forum. Call: Don Morrison, (408) 425-7222.

January 27 PageMaker II Class. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

January 27–28 MacAcademy. San Jose. Florida Marketing International. Call: (904) 677-1918.

January 28 LAN Essentials: Installation & Configuration Class. Oakland. DATAssociates. Call: (415) 465-9083.

January 28 Sacramento Computer Show & Sale. Cal Expo. East West Computer Shows. Call: (415) 388-8893.

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January 28 Maintaining A Competitive Edge Through The Year 2000. Santa Clara. Silicon Valley Entrepreneurs Club. Call: (408) 562-6040.

January 29 Marin Computer Show & Sale. East West Computer Shows. Call: (415) 388-8893.

January 30–31 MacAcademy. Sacramento. Florida Marketing International. Call: (904) 677-1918.

January 30-February 3 USENIX Association Winter 1989 Technical Conference. San Diego. USENIX Association. Call: Donnalyn Frey, (703) 764-9789.

January 31 Word II Class. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

January 31 HyperCard II Class. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

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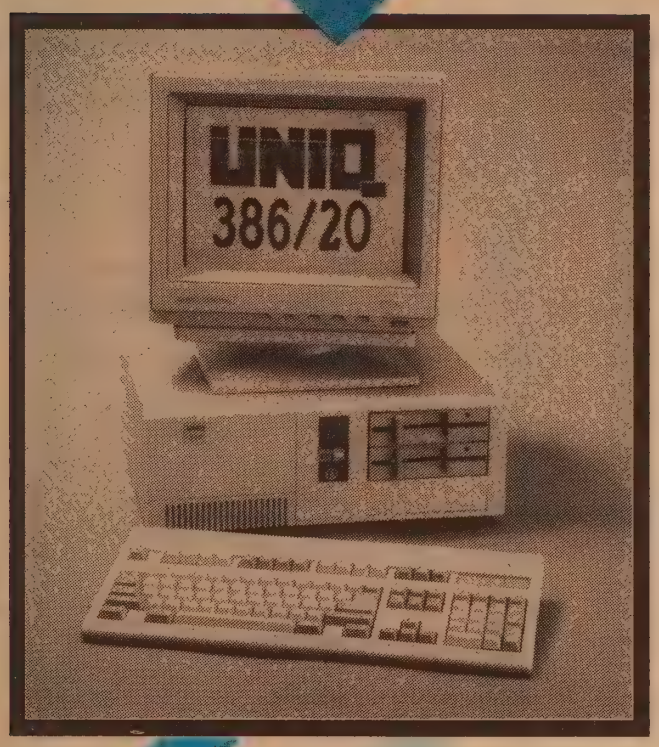

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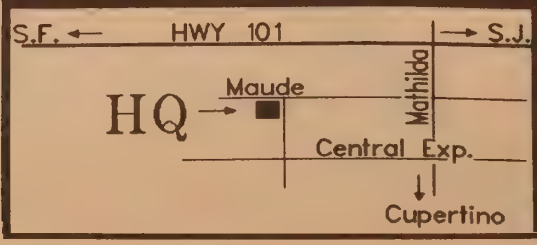

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- XT MFM/RLL HDD Contr. $55/65
- AT MFM/RLL Hard&Fl. $105/149
- 1:1 Interleaved ESDI Hd./Fl. Contr. . . $195

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January 31-February 2 DB/EXPO'89. San Francisco. Norm De Nardi Enterprises. Call: (415) 941-8440.

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February 1 Excel—An Overview. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

February 2 Word I Class. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

February 2 Introduction To Graphics Class. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

February 3 LAN Essentials: Installation & Configuration Class. Oakland. DATAssociates. Call: (415) 465-9083.

February 4 Putting Modern Technology Into Your Genealogy Seminar. Rancho Cordova. Computer-Rooters. Call: Carllene Marek, (916) 366-7636.

February 5 Vallejo Computer Show & Sale. Exposition Hall. East West Computer Shows. Call: (415) 388-8893.

February 5-7 SAFECON-Software And Firmware CONference. San Jose. MultiDynamics, Inc. Call: Anne Weber, (714) 669-1201.

February 6–9 Buscon/89-West Conference. Santa Clara. Buscon/89-West. Call: Jill Protheroe, Ext. 221, (203) 852-0500.

February 6 Understanding Computers. Sacramento. Padgett Thompson. Call: 1-800-255-4141.

February 7 Basic Macintosh Lab. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

February 7 HyperCard III Class. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

February 7–10 Computer Network Management & Control Course. San Francisco. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

February 7 Understanding Computers. Oakland. Padgett Thompson. Call: 1-800-255-4141.

February 8 PageMaker I Class. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

February 8 Introduction To Excel Class. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

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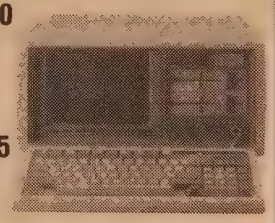

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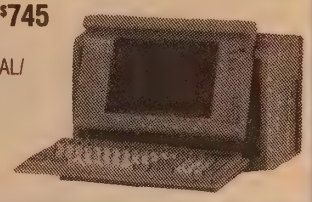

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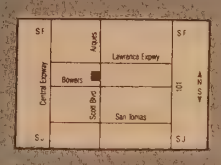

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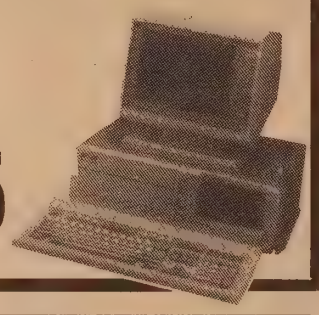

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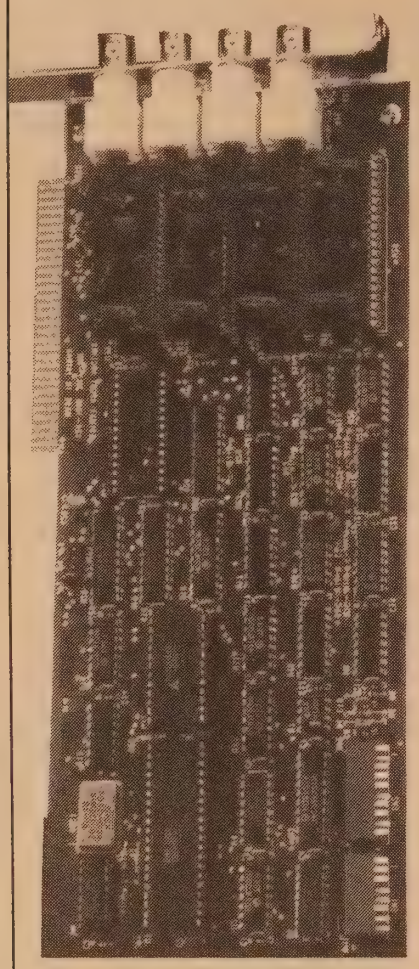

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February 27 PageMaker—An Overview. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

February 27–March 3 IEEE Computer Society COMPCON Spring '89. San Francisco. The Computer Society of the IEEE. Call: (202) 371-1013.

February 28 Introduction To Illustrator 88 Class. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

February 28 PageMaker I Class. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

February 28-March 3 Systems Engineering For Integrated Hardware/Software Applications Course. San Francisco. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

March 1 HyperCard III Class. San Francisco, Fort Mason, Bldg. D. Computer Alliance. Call: (415) 771-1671.

March 4 LAN Essentials: Installation & Configuration Class. Oakland. DATAssociates. Call: (415) 465-9083.

March 4–5 Oakland Computer Show & Sale. Oakland Computer Show & Sale. East-West Computer Shows. Call: (415) 388-8893.

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March 6–9 Folio:West—The 1989 Publishing Conference. Los Angeles. Hanson Publishing Group. Call: (203) 358-9900.

March 9–10 Time Line Workshop. San Francisco. Symantec. Call: (415) 898-1919.

March 13-16 Interface '89 Plus Exposition And Conference. New York. Businessweek & Data Communication. Call: Cheryl Delgreco, (617) 449-6600.

March 13-15 New Technologies: Building On The Fourth Wave Seminar. San Francisco. Seybold Seminars. Call: Kevin Howard, (213) 457-5850.

March 14-16 Computers In Libraries Conference And Exhibition. Oakland. Meckler Corporation. Call: Hannah Preston, 1-800-635-5537

March 15–17 Finance And Accounting For Technical Managers Course. San Francisco. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

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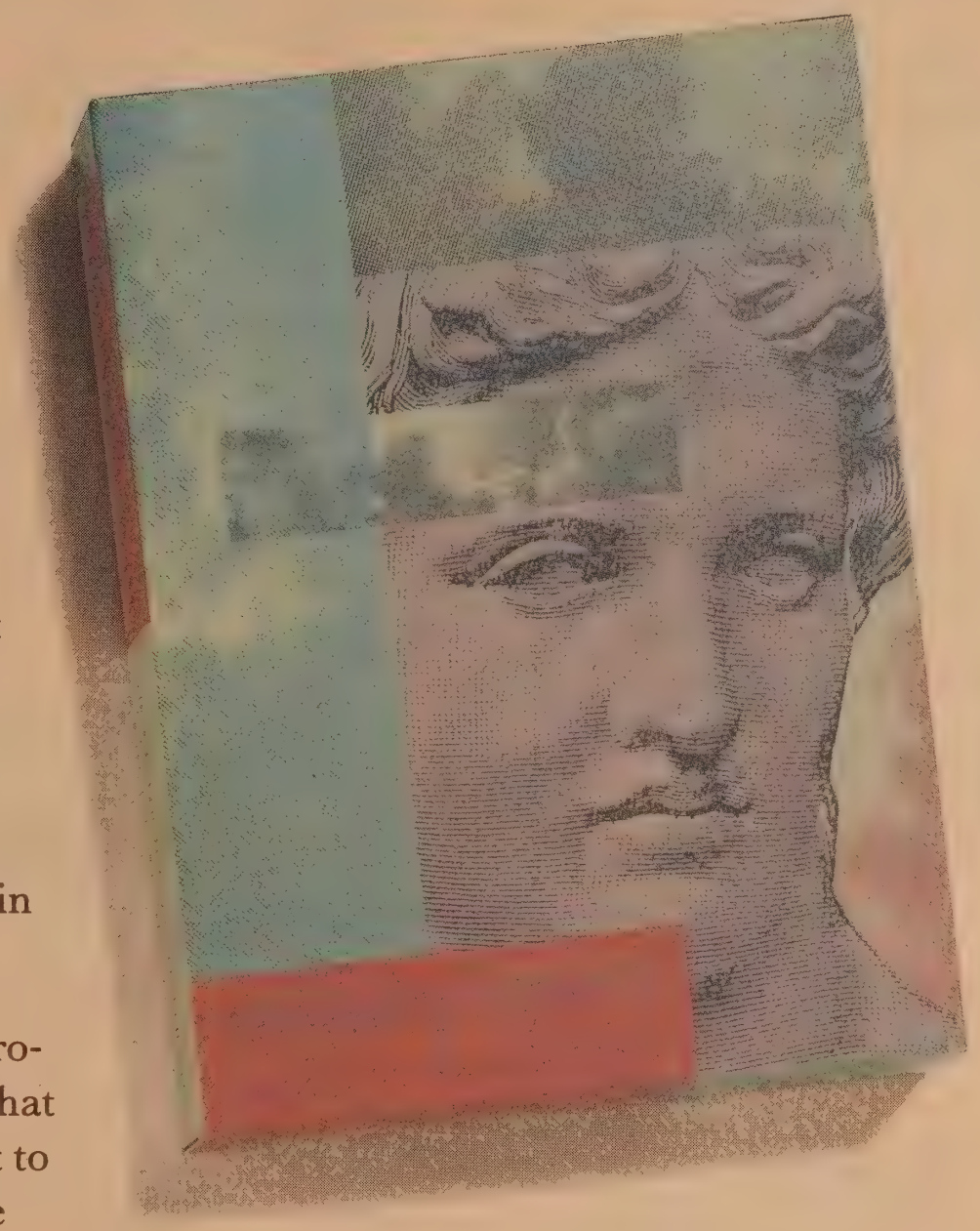

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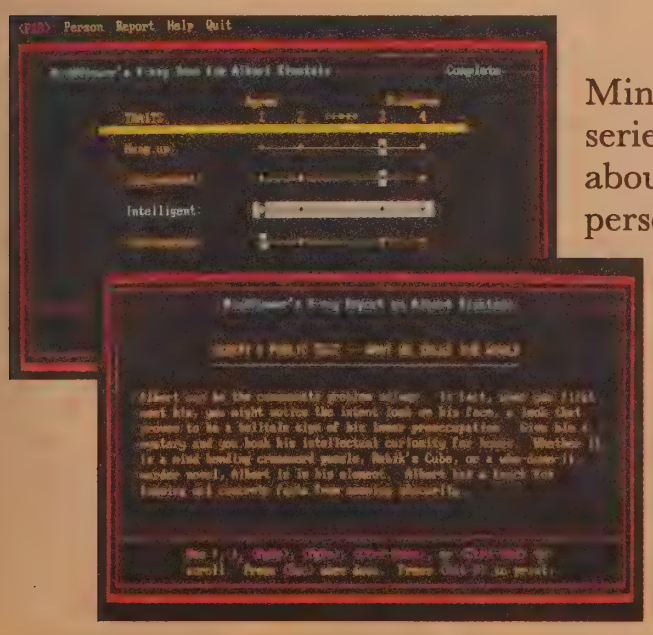

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NEWS
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BY PAUL HOFFMAN

IN THE NEWS . . .

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In a surprising move, long-time IBM veteran William C. Lowe has left Big Blue for Xerox. Paul Hoffman discusses some of the implications for both companies and the industry.

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Apparently cutting disastrous losses, IBM has sold its Rolm telecommunications division to the German giant Siemens.

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Paul Hoffman is an industry analyst who has been covering microcomputer technology for ten years. He can be reached on USENET (phoffman@well) and MCI Mail (264-3171). He also writes popular microcomputer books.

Lowe Leaves IBM

Some personnel are easily replaceable, others make such a name for themselves that they leave a gaping hole when they resign. IBM will have to decide which is the case for William Lowe, former head of IBM's Entry Systems Division. Lowe, in a surprise move, resigned from that division and from IBM altogether to join Xerox as executive vice president for planning, development, and manufacturing. IBM replaced Lowe with James Cannavino, who was formerly head of IBM's mainframe division, and split the Entry Systems Division into two parts.

Lowe is generally acknowledged as the main driver behind IBM's PS/2 line. He made it a priority not only to create a new bus for the system, but to position the machine as a powerful workstation system that was an enhancement of, not a replacement for, the original IBM PC line. His leadership of the division did not always bear fruit, however, since the PS/2 line did not produce the profits that IBM had hoped for.

Many industry observers insisted that the PS/2 with the Micro Channel Architecture (MCA) was a burden on IBM that only started to turn around a few months ago. In Lowe's tenure of more than three years in the Entry Systems Division, IBM lost percentage of market share to smaller, cheaper competitors, but was able to keep its most valued clients, namely companies that used IBM mainframe computers.

The prospects for Lowe at Xerox are great. He has a very powerful position that spans almost the entire breadth of the company, and can direct the areas where Xerox will spend most of its extensive research budget. More important, however, he will be able to help bring Xerox and IBM closer through strategic alliances based on his understanding of the people and power at IBM. The timing of his move couldn't be better for Xerox, still floundering in the personal computer market without much real direction.

In the past few years, IBM has been more willing to make deals with competing companies. However, they have recently moved away from making deals for money: instead, they want to trade access to technologies that they cannot produce themselves. This strategy has been one of the biggest stumbling blocks for companies trying to produce clones with the MCA bus, since few clone companies have any technology in which IBM is interested.

Xerox, on the other hand, is much stronger in technology than almost any other diversified computer company, so they have much more with which to deal with IBM. Lowe, then, will be able to keep his old friends at IBM happy by making deals with them for Xerox's extensive portfolio of patents, processes, and manufacturing technology. This will also, of course, please his cohorts at Xerox, since the company never gets much respect for its advanced technology. By being at the intersection of the two companies, Lowe will be able to orchestrate the advancement of Xerox at the same time he is helping IBM.

In a related move, IBM split off the workstation products from the Entry Systems Group. This is mostly due to the poor domestic sales of the workstation products, especially the IBM PC-RT, a RISC-based system. This move certainly does not kill off the products, however, since many of the workstations are popular overseas. Cannavino will be able to focus his efforts on a single line of products and have better control over the direction of the division without the workstation group having to tag along on new announcements.

IBM Sells Rolm to Siemens

Admitting that they lost hundreds of millions of dollars on their purchase of Rolm four years ago, IBM sold the telecommunications division to Siemens, the German giant which already has a very strong foothold in the telecommunications market. The sale gives Siemens the Rolm research and development departments and a guarantee from IBM that IBM will not try to develop a telecommunications system in Europe. IBM and Siemens will split the marketing and services of Rolm-developed products in the US.

One of the major reasons that Rolm failed for IBM is that Rolm workers and management always had a very independent attitude that helped form the company image. In its four years as an IBM subsidiary, morale at Rolm plummeted, taking sales and major development with it. Many Rolm workers feel that the sale to Siemens, a much less bureaucratic organization than IBM, will help restore morale.

Fox Countersues Ashton-Tate

Fox Software responded to Ashton-Tate's lawsuit with a countersuit that may prove very embarrassing to Ashton-Tate and will certainly embroil the two companies in litigation for years to come.

Earlier, Ashton-Tate sued Fox for infringing on their copyrights since *FoxBase+* looks very similar to *dBASE III* and *dBASE IV*. Fox's countersuit not only refutes the charges in the original suit but claims that Ashton-Tate stole many features that it added to *dBASE IV* when it examined Fox's source code during discussions that were supposedly aimed at Ashton-Tate purchasing Fox. If that allegation is upheld in court, Ashton-Tate will probably become the laughingstock of the software industry for bringing up the original suit when it was so vulnerable to a countersuit and will probably generate a tremendous amount of favorable publicity for

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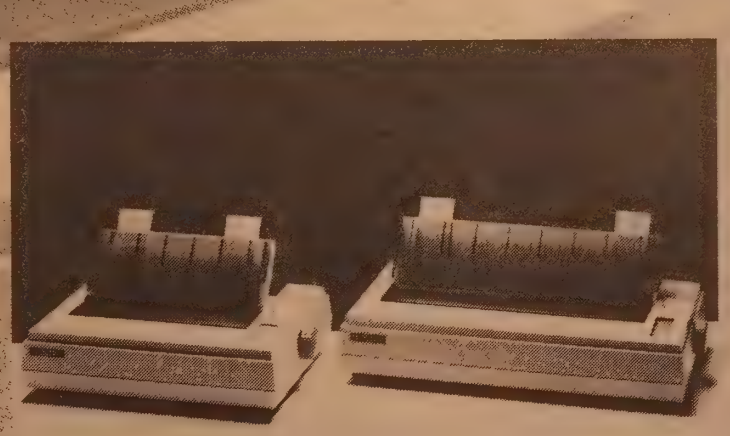

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NEWS AND ANALYSIS

Epyx Successfully Defends Copyright Suit

The scope of look-and-feel lawsuits was narrowed by a decision in the Ninth Circuit Court that denied Data East exclusive copyright to karate-type games.

Data East claimed that Epyx's *World Karate Championship* infringed on its *Karate Champ* game even though there were many differences in the way that the games were presented and played. Data East was supported by a lower court ruling, but lost on Epyx's appeal.

The ruling made it clear that there had to be a very substantial overlap in the way that computer games (and probably business software) acted and appeared before a copyright suit could be brought.

FoxBase+.

Fox's response to Ashton-Tate takes on Ashton-Tate in many areas: Fox claims that, although *FoxBase+* is compatible with *dBASE*, it does not use the same look and feel. Specifically, Fox says that the many additional features (including additional commands, utility programs) and the overall faster execution speed make *FoxBase+* look and feel very different from *dBASE*. This is the first major case to bring speed of execution into the "feel" part of the now-infamous look-and-feel suits.

Since it is widely known that *dBASE II* was based on a public-domain database language, Fox claims that Ashton-Tate has no look-and-feel copyright on the product. *dBASE II* was originally developed at the Jet Propulsion Laboratory in Pasadena as JPLDIS, as its original inventors have since pointed out on many occasions. As Ashton-Tate released new versions of *dBASE*, it copied features from other programs. Fox claims that this invalidates Ashton-Tate's look-and-feel copyright and therefore makes their claim against Fox empty.

Fox claims that Ashton-Tate has encouraged other companies to create *dBASE*-compatible languages. Certainly, it has never done anything to discourage them. In fact, it has openly invited manufacturers including Fox to dBASE developers' conferences and used them as proof of the power of the dBASE language. Fox uses the legal theories of *estoppel* (Ashton-Tate's earlier encouragement of Fox to develop *FoxBase+* inhibits their ability to later claim damages) and *laches* (long-neglected rights cannot later be enforced) to defend itself at this late stage in the development of the *dBASE*-compatible market.

No one has ever copyrighted a computer language. Ashton-Tate's claim on the language is probably a gesture at being all-expansive in their suit, but it may come back to haunt them, since almost everyone who has commented on the case has pointed out Ashton-Tate's folly on this point.

Fox claims that Ashton-Tate neglected to mention that *dBASE II* was based on JPLDIS in its copyright registration and therefore committed fraud. Fox says that Ashton-Tate can't claim to not know about the origin of *dBASE* since it employed the people who developed it at JPL.

Fox further claims that Ashton-Tate tricked Fox into showing its source code, and incorporated some of it into *dBASE IV*. The suit states: "Between November, 1986 and March, 1987, Ashton-Tate, on the pretense of acquiring *FoxBASE+*, induced Fox and Dave Fulton to provide Ashton-Tate with details of the proprietary, secret structure and algorithms used in *FoxBASE+*. Ashton-Tate willfully misappropriated some or all of the proprietary, secret structures and algorithms which were disclosed in confidence and has incorporated them into its latest release, *dBASE IV*."

Due to this alleged theft of secrets, Fox asks for damages from Ashton-Tate. Further, they claim that Ashton-Tate is attempting to monopolize the PC database market by fraudulently obtaining copyrights, inducing companies to disclose programming secrets, and threatening groundless litigation.

This litigation has brought out an interesting new twist to lawsuits in the micro industry. Both Ashton-Tate and Fox accompanied their claims not only with press releases but with "open letters" to the software industry, each defending their points of view. These letters cover the larger copyright issues, but go further by attempting to line up software vendors on one side of the case before it has even been presented to the judge. It is not clear whether the letter-writers want to get companies to write friend-of-the-court briefs in their favor or simply to try to keep friends during the long course of litigation.

It appears that Ashton-Tate predicted the backlash against it for the suit and tried to stem the tide with the open letter, and that Fox tried to capitalize on this sentiment in their letter. Fox also used their open letter to present some of their evidence before the case was heard.

Open Software Foundation Breaks Off Talks with AT&T

Claiming that AT&T was intractable on major issues, the president of the Open Software Foundation (OSF) announced that OSF had broken off talks with the giant owner of UNIX and reaffirmed its selection of IBM's AIX-3 as the base for OSF development.

According to a letter sent to OSF members and the press, "The central obstacle to AT&T's joining OSF is its insistence that the OSF Board of Directors mandate System V Release 4 in its entirety as OSF/1, rather than permitting users to select the best available technologies through the open process." The letter also said, "Although we remain open to further discussions, I assure you that we have no intention of allowing these, or any other activities, to impact our commitment to you to deliver a complete open software platform by the end of 1989."

The letter went on to restate the advantages of AIX-3 over AT&T's UNIX, emphasizing that current System V applications will be fully supported under the first version of the OSF operating system, OSF/1. It also stated that OSF/1 will contain "streams" similar to System V and will be compatible with Berkeley 4.3BSD.

Apple Announces New Mac SE/30

Emphasizing the higher end of the personal computer market again, Apple introduced the Macintosh SE/30, an SE with a 68030 CPU and 68882 floating-point math coprocessor in the small Macintosh box. The SE/30 is essentially a Macintosh IIx in a small box with a small screen. Apple hopes that the SE/30 will attract power users who are not interested in the large size of the Mac II but are willing to pay for a system that runs faster than most of the 80386-based MS-DOS systems of today.

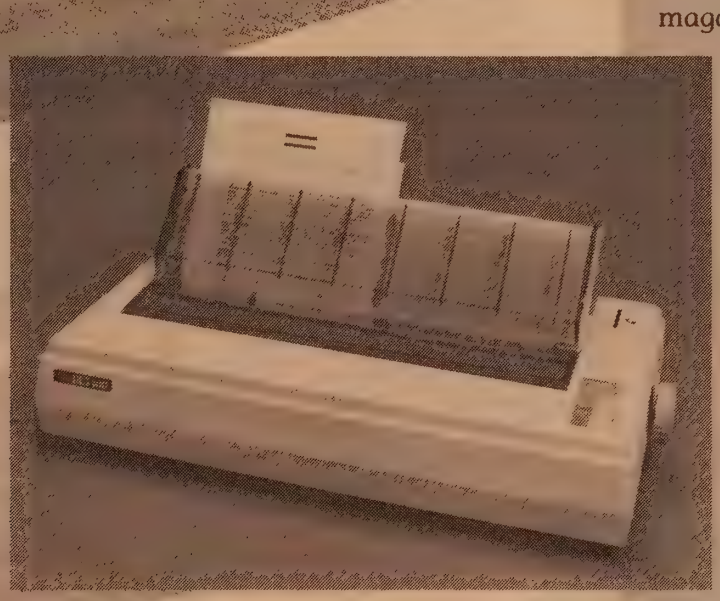
The SE/30 comes with Apple's new 3.5" high-density drive which is compatible with 1.44 Mb MS-DOS diskettes. There are 40 MB and 80 Mb hard disk options, and it comes with either 2 or 4 megabytes of RAM. The SE/30 can be expanded to 8 Mb of RAM, twice the amount of the standard SE. It has an expansion slot similar to the current SE, but that gives direct access to all the signals of the 68030 CPU. Thus, boards for current SEs will not work with the SE/30, but hardware designers say that it is easy to change to the new design.

Apple is introducing the SE/30 in two models. The lower-cost model has 2 megabytes of RAM and a 40 Mb disk for $5069, while the higher-cost model has 4megabytes of RAM and an 80 Mb hard disk for $6369; both prices exclude the keyboard. These prices put it between the current SE and the high-end Mac IIs, which have separate monitors and more slots for expansion. Like other Macintoshes, the SE/30 comes with the Macintosh operating system and *HyperCard*.

The SE/30 shows that Apple is continuing to push the Macintosh to higher power and is trying to reach the people who are entranced enough with it but need to justify its purchase over a PC clone. With the cost of a fully-configured 80386-based clone dropping below $2500, Apple has to push the Mac into the hands of more higher-end users in order to be considered for large corporate buys. Of course, one of the best ways to do this would be to lower the price, but, barring that, Apple will try to woo these top-level buyers with a range of systems that are as powerful as any PC that they could buy but which run all the familiar Macintosh applications. Since OS/2 for the 386 is more than a year off, it is likely that Apple's strategy will make additional inroads into this market.

Why the Fujitsu 24-pin dot-matrix printer is rated one of the best buys in its class.

If you're looking for a full-featured 24-wire dot-matrix printer at a surprisingly affordable price, check-out the Fujitsu DL3400 printer. In a comparison test of 37 dot-matrix printers by BYTE magazine, it was rated as being one of your best choices. Here's why:



Quality Printing

Choose between the razor sharp 72 cps letter-quality mode or the fast 288 cps draft mode to fit your application. Additional font cards allow you to choose from nine different letter quality fonts. The DL3400 received top ratings in both text and graphics printing.

Superb Paper Handling

Load continuous forms automatically or "park" forms to insert single sheets at anytime. The rear feed tractors move the paper smoothly, greatly reducing the possibility of jamming.

Quiet Operation

Operates at a low 55 decibels. In BYTE's test, *no one had a quieter printer* than the DL3400.

Incredible Reliability

The DL3400 is rated at an industry leading 8,000 hours MTBF for years of reliable operation.

Affordable Price

Even with this list of impressive features, the DL3400 is surprisingly affordable. Discover Fujitsu's impressive 24-pin printer for yourself. The authorized dealers listed here have the DL3400 in stock now and are ready to give you a demonstration.

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Concord
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* Information from April 1988 issue of BYTE

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386 20 MHz 0 Wait System $1875

- Western Digital FD/HD Controller
- Teac 1.2 MB Floppy Drive
- 80287 or 80387 Socket
- 1 MB Static RAM on board
- Landmark=25.5 MHz
- Hi-Res MGP
- Micronics Motherboard
- Maxi-Switch 101 Keyboard
- Hi-Res Mono Monitor

TURBO XT COMPLETE MONO SYSTEM $429

- 4.77/8MHz/256K RAM
- 360K Floppy Drive (Fujitsu)
- Hi-Res MGP
- AT Style Keyboard
- 150W Power Supply
- High Res Mono Monitor
- Floppy Disk Controller (DTK)
- One Year Warranty

10 MHz SYSTEM $439

6/10 MHz 0-WAIT MONO 286 SYSTEM $849

- 512K RAM Exp. to 1MB on Motherboard
- 1.2 MB Teac Drive
- FD/HD Controller (Western Digital)
- 220 W Power Supply
- Hi-Res MGP
- AT Style Keyboard (K151L Available)
- High Res Mono Monitor
- One Year Warranty
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6/12 MHz 286 System $899

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RS-232 card 20
AT-I/O card (S/P/G) (DTK) 45
Multi I/O card (FDD/S/P/G/Clock) . 48
Printer card (DTK) 20
Hard disk controller + cable 65
WD FD/HD Dual Controller 109
DTC RLL Contrlr AT 134
DTC 7280 Controller (1:1 Interleave) $149
DTC 7287 RLL Cont 1:1 Interleave 175
AT Everex 3 MB RAM Card 84
Memo-576 card (upgrade XT memory) 35

MONITORS
Nanao 9070S 16" 1024x768 (IBM. Mac) $949
Nanao 8060S (800x600) 529
Caspar Mono Swivel. 69
Quimax DM-14 125
Samsung Color 225
Relisys 5154 339
Relisys 5155 465
NEC Multi-Sync 569

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Keytronic 101 . . . . . $49
K151L (AT Style). 40
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Maxi-Switch 84/101 Key 55/60

DISK DRIVES
Fujitsu 360K/1.2 MB $63/79
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Teac 3.5" Drive (720KB) 80
3.5" (1.44MB) Teac/Toshiba 99
ST-225 Kit. 249
ST-238 Kit 285
ST-125 (20MB 40ms) 259
ST-138 (30MB 40ms) 289
ST-225 208
ST-238 235
ST-251 (38ms) 339
ST-251-1 (28ms) 399
ST-4096 (28ms) 569

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Star NX 1000 . . . . . $179
Star NX 1000 Rainbow 229

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4.77/8 MHz Turbo XT motherboard (OK). 70
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Full size 6/12 MHz 0 Wait AT M/B (DTK w/80286-12 CPU) 275

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MS DOS 3.3. . . . . $85
6' printer cable 3.50
Keyboard drawer. 29
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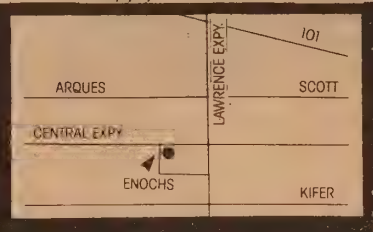
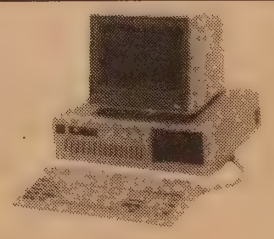
Santa Clara, CA 95051 FAX: (408) 736-4356
M-F 9-7 Sat 10-4



Complete Computer Systems Including Hard Drive!



FLASH: Wholesale clone dealer opens its doors to the public, offering complete computer systems including AT's, 386 supersystems, training and more. Call today for details!

$579 Base System includes HD

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NEWS AND ANALYSIS

dBASE IV's SQL Unstable

Ashton-Tate admitted that the SQL portion of its recently-released *dBASE IV* gives wrong results without warning and can also generate unexplained internal errors with some queries. The errors are quite serious in that they indicate that the internal SQL code in *dBASE IV* is unstable and was released without sufficient testing. The bugs were initially reported by Quadbase Systems, which markets a competing SQL interface, but were independently confirmed by many magazines and database experts.

There appear to be many problems with the SQL query module that appear as incorrect and inconsistent answers to database queries. For example, you can get two different results asking the same question on the same database. Ashton-Tate has said that it will announce procedures to work around the known problems, although this means that everyone using *dBASE IV* must know of all the problems and recognize them in their work. As it stands, people using *dBASE IV* should not use the SQL query module for querying datasets until Ashton-Tate has released a new version. The company has said that it will put out a new version to fix the known problems, although it did not give an estimate when. Ashton-Tate did not say how they would distribute the information or the update, or whether or not the update would be free.

OSF's Mixed User Interface For UNIX

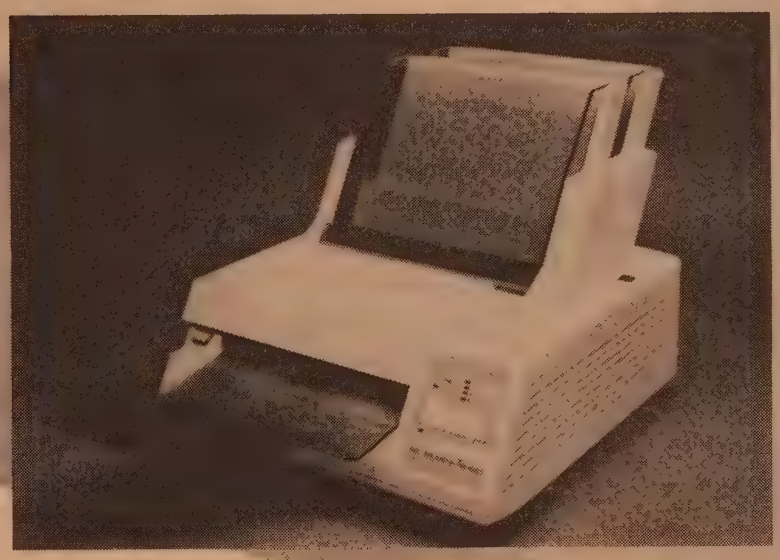
In a bid to keep many of its clients happy without estranging anyone, the Open Software Foundation (OSF) chose three contenders for its user interface to merge into a single package. DEC will supply the toolkit necessary for building and modifying the user interface, Microsoft will supply the Presentation Manager user interface, and Hewlett-Packard will supply technology to make the windows consistent. Like Apple's Macintosh, the user interface will come with a style guide for programmers so that programs have a similar look. The entire interface will work with the MIT X Windows protocols, so that programs current working under X Windows will be easily ported to the new user interface.

Microsoft's Presentation Manager for UNIX will make up the bulk of the offering, leading many people to wonder what Apple's response to the user interface will be. Apple last year sued Microsoft and Hewlett-Packard, claiming that the look and feel of Microsoft *Windows* and Hewlett-Packard's NewWave infringed on its copyright to the Macintosh interface. Since Presentation Manager looks almost exactly like *Windows* and NewWave, Apple could extend its suit to cover the OSF offering. The project will be put together by a team of DEC and Hewlett-Packard engineers, and will be finished in nine months, according to OSF.

OSF members are in a quandary about what to do about the lateness of the first version of the OSF

Why the RX7100 page printer doesn't just look good on paper.

It looks good on a desk, too. Because the RX7100 consumes less than 1.75 square feet of desktop, making it perfect for personal use. Fujitsu designed it to be the ultimate desktop page printer. And at a price as tiny as its footprint.



Versatile

But this small printer is still a big performer. Because it prints on 28 lb. bond paper, envelopes and transparencies. Even paper as small as a postcard can be fed in through the manual feed slot. Those who hate to wait on their printers will appreciate its twin paper bins.

High Resolution

The RX7100 offers razor-sharp text and graphics at 300 d.p.i. resolution, the result of its advanced LED printing technology. HP Laserjet Plus emulation is built-in. And Diablo 630, Epson FX-85, IBM Proprinter and HPGL emulations are just a card away.

Easy Maintenance

And there's no problem with maintenance— users need only replace the cartridge every 6,000 pages.

The RX7100 is everything a personal page printer should be—efficient, affordable, versatile and trouble-free. So while it may seem great on paper, it's even better in person. Look for it at any of the dealers listed here.

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Sunnyvale Memories
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Rose Hill Systems
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Access Computer Technologies
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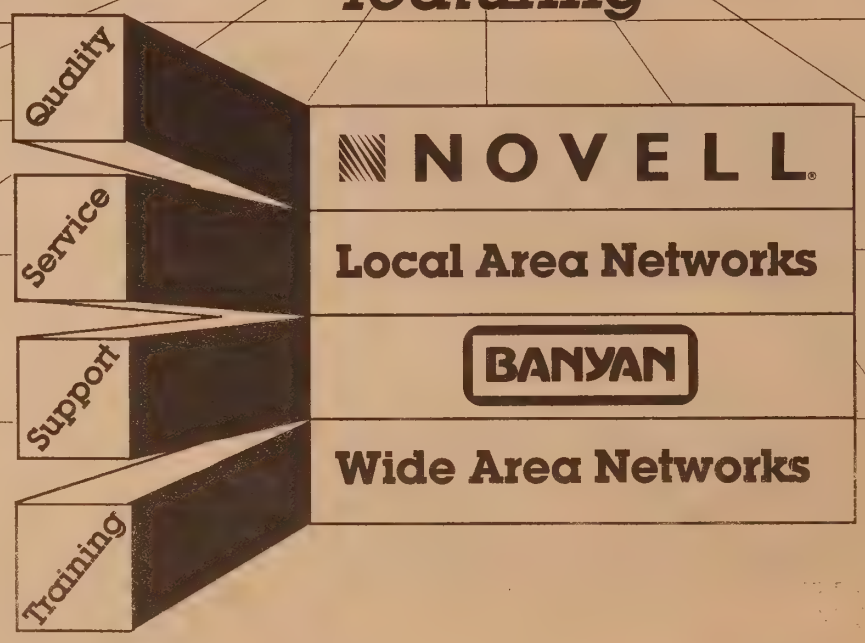

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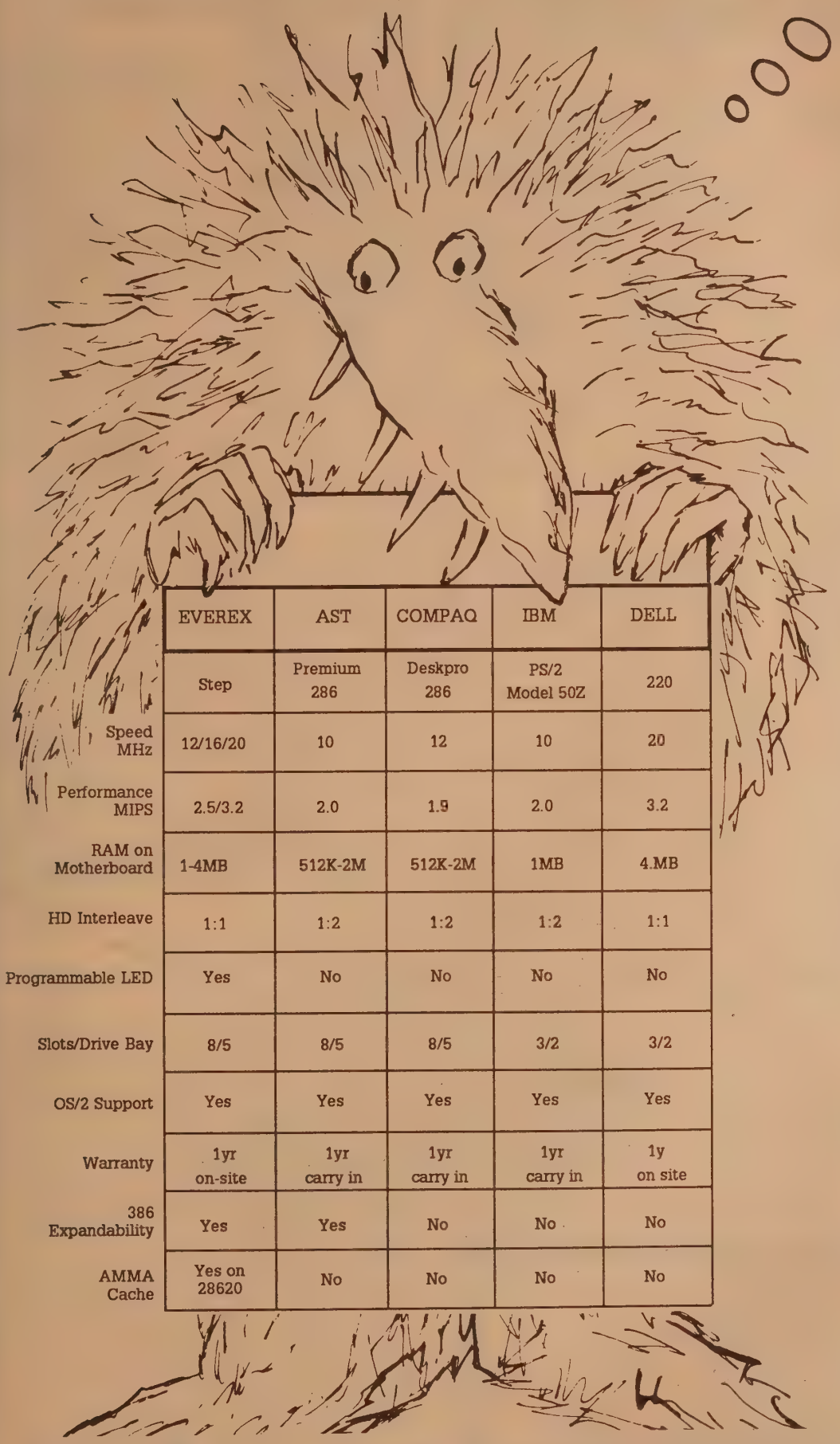

EVEREX	AST	COMPAQ	IBM	DELL
Step	Premium 286	Deskpro 286	PS/2 Model 50Z	220
Speed MHz	12/16/20	10	12	10	20
Performance MIPS	2.5/3.2	2.0	1.9	2.0	3.2
RAM on Motherboard	1-4MB	512K-2M	512K-2M	1MB	4.MB
HD Interleave	1:1	1:2	1:2	1:2	1:1
Programmable LED	Yes	No	No	No	No
Slots/Drive Bay	8/5	8/5	8/5	3/2	3/2
OS/2 Support	Yes	Yes	Yes	Yes	Yes
Warranty	1yr on-site	1yr carry in	1yr carry in	1yr carry in	1y on site
386 Expandability	Yes	Yes	No	No	No
AMMA Cache	Yes on 28620	No	No	No	No

Often in this crazy industry, a newcomer seems to suddenly leap into the scene and takes the industry by storm. Such is a company called **EVEREX**.

In less than a year, **EVEREX** has introduced and delivered more models of computers than most companies since the dawn of our industry. From its 286/12 to its 386/25, these computers offer uncompromised performance at unsurpassed values. **INTERNATIONAL MICRONET** takes great pride in offering the **TOTAL EVEREX SOLUTION.** Call us for a complete line of Everex products. You'll be assured of quality service, knowledgeable staff and competetive prices.

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Computers are generally measured in terms of their ability to process data. Generally, the industry standard for such a measurement is MIPs or millions of instructions per second. Just take a look at the chart for your own conclusion.
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All **EVEREX** 286 computers are expandable from 1 to 4 megabytes of RAM. To support the true 0 wait state processing, memory chips are tested to 60ns -- almost twice as fast as most of our competition.
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The **EVEREX** computers give you full Diagnostics upon power up in a very readable 8 digit display in the front panel.
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7. DOS 3.3 is standard. 8. OS/2
Most vendors like to hide the fact that OS/2 is vendor level specific. This means vendors seeking to have OS/2 compatibility have to provide you with their version of OS/2. **EVEREX** has a version OS/2 available as an option for their machines.
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EVEREX computers and all **EVEREX** components -- including hard disks, monitors, and peripherals come with a full year of on-site warranty. This service is provided through NCS which has 106 locations nationwide.
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12. Price
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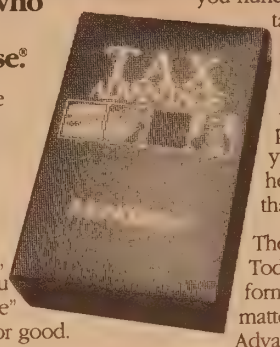

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Tax Advantage is fast. There's no quicker way to get your taxes together. You can run the numbers again and again to make additions, adjustments and comparisons.

Easy to use. Just feed in the data you'd ordinarily hand over to your tax preparer. Tax Advantage makes the calculations and prints out its own forms on your printer—ready to sign and mail directly to the I.R.S.

Complete. It prepares the most often used forms: 1040, 2106, 2441, 4562 and 6251. As well as Schedules A, B, D, E, F, SE and up to three Schedule C's. Plus, it gives you itemized supporting statements where you need them.

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—Ed Wolter, Kent, WA

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—Ruth Ann Sanderson, St. Louis, MO

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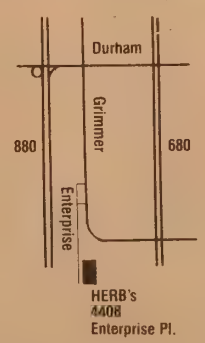

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NEWS AND ANALYSIS

operating system. Although many are loudly trumpeting the cause, especially now that a user interface that is consistent with IBM's other operating systems has been chosen, but many still plan to release their hardware with AT&T's version V.3 this year. Since the OSF software probably won't be available commercially for more than a year, there will be even more software companies and in-house systems that are dedicated to the AT&T versions of UNIX. A great deal of the success of OSF-based machines will hinge on whether large applications will cross-compile easily to OSF/1. Of course, everyone is saying that they will, but UNIX experts note that the same claims have been made in the past by the same people, and they were often untrue.

In a related story, Oracle, the largest producers of DBMSes for UNIX systems, announced that it was joining both the OSF and the rival UNIX International group. UNIX International, vendors who support AT&T's leading role in the future of UNIX, was formed as a response to OSF's publicity drive, and consists mostly of everyone who is not in OSF. Although there is some overlap in membership, especially among software vendors, Oracle made a point about the equivalence of the two groups by announcing its joining the organizations in the same press release. Many software vendors, and many large UNIX-using sites, are very concerned about the fractionalism of the UNIX market and how it will affect current systems. Oracle, by bringing both groups and making it clear that it has no preference for either, may help get the two to see that the market goes on without them.

Nintendo In the News

The most-hyped product of the Christmas season was clearly the Nintendo home video game machine. Last month, Atari sued Nintendo, claiming that Nintendo was illegally keeping competitors out of the market by controlling the manufacture and distribution of the game cartridges that work with the machine. Later, the Software Publishers Association (SPA) supported Atari's claim and says that the Japanese giant has caused the shortage of cartridges that plagued many retailers this Christmas. The SPA says that they are concerned that this type of action, if unchecked, could lead to microcomputer manufacturers using the same sort of tactics and harming the computer industry. The SPA says that only an open market for game cartridges will alleviate the current situation of inflated prices for the Nintendo machine.

Now Nintendo has sued Atari for breach of contract, unfair competition, trademark infringement, and violating the Racketeer Influenced and Corrupt Organizations Act. This is due to Atari putting out their own games that work with the Nintendo system. The suit is pretty much the inverse of Atari's suit against Nintendo, claiming that Atari has no right to create the cartridges, that they violated Nintendo patents in creating the games, and that Nintendo should be able to control the quality of games entering the market. Nintendo specifically

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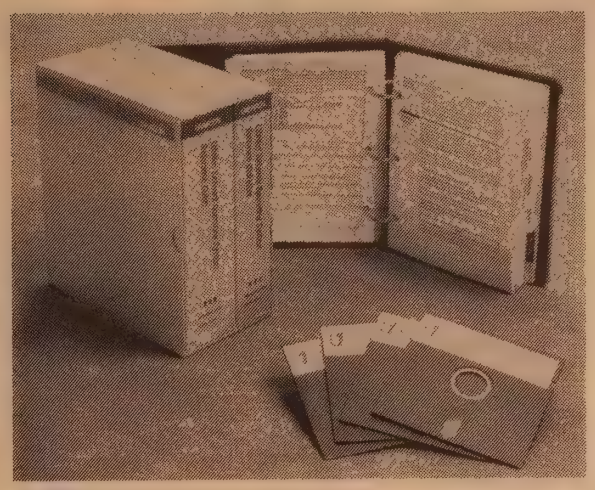
-PC Magazine, June 1988



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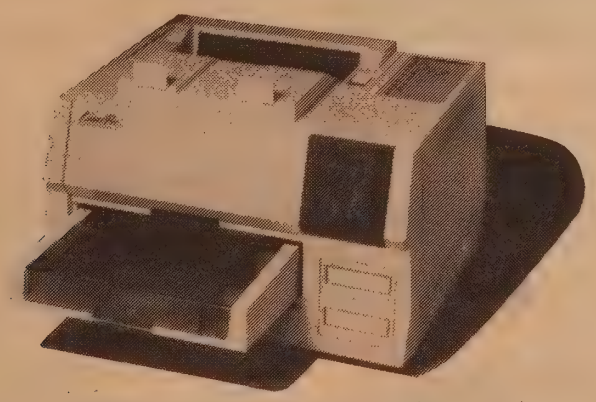

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Computer System	MIPS	Landmark	Norton SI
Everex STEP 386/25	**6.1**	**41.0**	**31.1**
IBM Model 70 (25 MHz)	5.7	NA	NA
Compaq Deskpro 386/25	5.5	40.7	30.5
Everex STEP 386/20	**4.9**	**32.8**	**24.3**
Compaq Deskpro 386/20	4.6	32.5	24.2
Everex STEP 286/20	**4.2**	**27.4**	**23.0**
Everex 386/16	**3.9**	**26.2**	**19.5**
IBM Model 70/80 (20 MHz)	3.5	24.7	22.0
Everex STEP 386is	**3.2**	**21.0**	**17.6**
Everex STEP 286/16	**3.2**	**21.0**	**18.0**
AST Premium 386/20	3.1	19.6	21.0
Wyse 386/16	3.0	20.0	17.6
Acer 386/16	3.0	20.0	16.2
Compaq Deskpro 386	2.9	19.0	17.6
IMB Model 70/80 (16MHz)	2.9	18.0	17.6
Compaq Deskpro 386s	2.5	15.4	12.5
Everex STEP 286/12	**2.5**	**15.7**	**13.7**
AST Premium 286	2.0	12.7	11.1
Compaq Deskpro 286	1.9	11.7	11.5
IBM Model 50z	2.0	12.8	11.2

The Database Group Power Meter MIPS version 1.2 Landmark benchmark version 1.10; Norton Advanced Utilities System information
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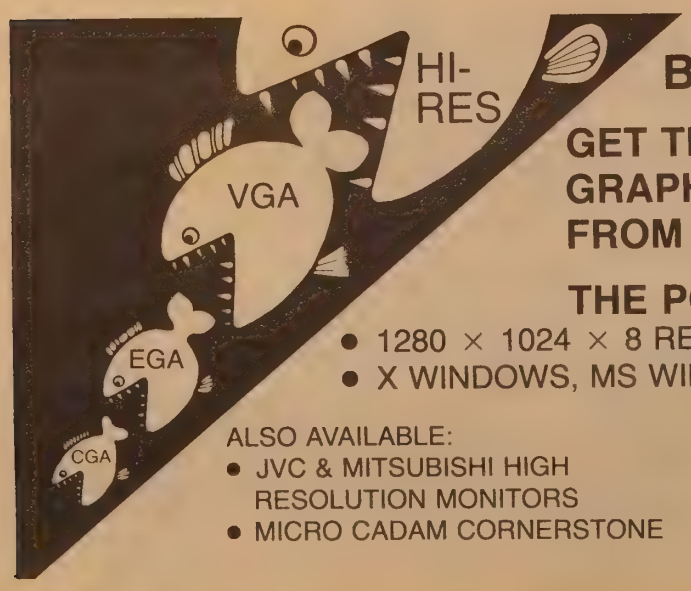

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NEWS AND ANALYSIS

claims that Atari's *RBI Baseball* violated an agreement between Atari and Nintendo.

The suit and countersuit are causing some problems in Japan, where lawsuits between companies are very rare, almost unheard-of between companies which are supporting each other. Although the Nintendo Famicom video system is by far the most popular in Japan, many people both inside and outside Nintendo are quietly complaining about the company's distinctly non-Japanese attitude about the American market. Usually, Japanese companies try to make as many friends of their competitors as they can, always being cordial and proper while fighting for market share. Nintendo, from its recent actions, now looks more like an American company rather than a Japanese one, relying on lawyers and high-pressure sales tactics than on long-term alliances.

The first innovative peripheral to come out for the Nintendo machine was shown at the Consumer Electronic Show by Brøderbund. The U-Force controller lets you play various games without using a joy stick and, in fact, without holding anything. U-Force senses hand movement nearby and translates those movements into control signals sent to the game machine. Thus, you can use U-Force to steer a car in a race game by moving your hands as if you were holding the steering wheel. Other games that might use the U-Force peripheral include boxing and fighting games, as well as standard shoot-em-up games. U-Force, which will begin shipping this spring for $70, is about the size of a book and folds open for playing. Brøderbund, who has a patent on the technology, may include the U-Force in future arcade games and controllers for other devices.

Apple Upgrades A/UX

Trying to assure the world that it has not forgotten UNIX, Apple announced that version 1.1 of its A/UX operating system will be shipped some time in the next few months and that this time they got it right. The first version of A/UX was seriously flawed, both in its ability to interact with Macintosh programs and in its support of UNIX standards. Sales have been dismal, and many people were worried that Apple would drop the package altogether. However, Apple made many significant improvements to A/UX and is hoping that the new release will generate much more interest than the previous one.

A/UX 1.1 now supports Macintosh desk accessories, standard printing, color, and AppleTalk. You can use more Apple devices such as Apple's CD-ROM drive and tape backup system. It now adheres to the IEEE POSIX standard for UNIX systems, version 12. This means that it will run many more non-Macintosh programs with only minor modification. It can also be networked in many ways to other UNIX systems, and can directly support Macintosh media. With these changes, people using a Macintosh II or IIx in a UNIX environment will be more likely to buy A/UX and participate in networks as a UNIX machine. ■

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INDUSTRY ISSUES • BY REV. JOHN PERRY BARLOW

Fear And Loathing At COMDEX

Trade Show Of The Living Dead

"We are the hollow men
We are the stuffed men
Leaning together
Headpiece filled with straw. Alas!
Our dried voices, when
We whisper together
Are quiet and meaningless
As wind in dry grass
Or rats' feet over broken glass
In our dry cellar

"Shape without form, shade without colour,
Paralysed force, gesture without motion..."
–from T*he Hollow Men by* T. S. Eliot

Never having been to a COMDEX, I wondered why the largest of computer trade shows would be held in Las Vegas. Seemed like an odd setting.

Unlike Vegas, computers are magical to me. I think of their development as a kind of holy undertaking. Through them, we might be creating a new form of life. At the least we're redesigning our own minds, gearing up to think, as J.C.R. Licklider put it: "as no human being has ever thought."

They might even be our salvation. I imagine their swift and immense modelings enhancing our ability to perceive the Mysterious Whole rather than its lifeless parts, a perception which may throttle back our planetary abuses in the nick of time. They are turbos for the imagination, psychedelics without fear, windows on the universe. Miracles...or something headed that way.

So why display the fruits of hope in a tarted-out old carny like Las Vegas? To me, Vegas is the compost pit for all the American Dream's toxic by-products, a place about which even Hunter S. Thompson couldn't speak enough ill. It hardly seems a proper showcase for miracles. But, as I say, I'd never been to a COMDEX. I was about to find out what computers really are.

I am accustomed to the sight of businessmen in transit, but still there was a startling uniformity at the America West gate in Salt Lake City. It was a perfect pond of dark blue, punctuated regularly by Power Tie Red. If there were a hacker present, he wasn't letting it show. Most everyone on Flight 457 had checked in early. They gazed upon my disheveled arrival like basilisks and returned to their Wall *Street Journals.*

The jetway opened and we filed into the aluminum tube. I felt like the answer to "What is wrong with this picture?" My fellow travelers spoke to one another in hushed tones, as though passing by a casket. There was absolutely no laughter.

I began to get a bad feeling about COMDEX.

I took refuge in my own *Wall Street Journal*, which had a special supplement on America's impending technological defeat by the Japanese. It maintained that the former Copycats of the Orient were now beating us at our own game: ideas. There appears to be a widening "creativity gap" both in technological products and production techniques.

For reasons mysterious to the *Journal*, the Japanese were mining veins in American research which American companies were leaving untouched. There was a dreary list of American inventions for which only Japanese companies had shown commercial interest.

Worse, Japanese companies were now leading in American patents. In only five years, the old leaders in annual filing, General Electric, RCA, and IBM, had fallen far behind Canon, Hitachi, and Toshiba. Describing American business attitudes, the authors kept using words like "indifference," "caution," "short-sightedness."

I looked around the cabin. I beheld there some very comfortable faces. In no eye did I detect a glittering lust of adventure.

The 737 swooped down over the jeep-scarred desert and emptied us into a casino. The gate pod at McCarran was filled with one-armed bandits and another silicon boon, video poker machines. The suits sprinted off to wait for taxis in a queue that looked like sirloin day in Minsk, while I settled in to wait for the later arrival of my guide, *MicroTimes* news editor Paul Hoffman.

His appearance calmed me somewhat. Paul, I discovered, is a Deadhead to the soles of his Birkenstocks. He also seemed to appreciate the demonic cackle he inspired in me by pointing out a threatening sign in the terminal corridor: "See ALL of Las Vegas."

If I were about to spend three days with 100,000 BizDroids, at least I would have the company of someone who could appreciate grisly humor, which, it became immediately clear, would be the only form available.

Lunch With Microsoft

We hustled off to the Riviera for lunch on Microsoft. Humor here was officially represented by a mock-up of George Bush's inaugural address in Microsoft *Word* 5.0, showing the ease with which our next president could plug in great lines from previous speeches. The press stared holes in their lasagna and chuckled nervously.

One could find unofficial amusement in the fact that, despite the touted maturation of OS/2's Presentation Manager, neither new release of Microsoft's big guns, *Word* and *Excel*, could run under it. No one noted this inconsistency, however, and I got a taste of COMDEX truth, a form which George Orwell would have recognized. It is a state of corporate understanding in which unpleasant realities simply don't exist.

Bill Gates, Microsoft's boy king, is no stranger to carefully sorted disclosure. One such selection made him a billionaire. Gates, whose mother once served on the United Way board with IBM chairman John Opel, found out in 1980 that IBM was looking for an operating system for its developing PC.

As it happened, he had a pal in Seattle named Rod Brock who had just developed a 16 bit operating system called SCP-DOS (for Seattle Computer Products Disk Operating System). Without telling Brock why he wanted it, Gates bought DOS for a sum which it has since returned to him roughly 20,000 times.

Gates took right to the basic fact of the Information Age: the money is made in trade and not creation. Technopeasants write the code. Their suited lords get rich from it. Gates, at the podium, still looked the prototypical hacker, even to the reflexive re-positioning of glasses which no longer slid. Nevertheless, his blandly uncandid portrayal of OS/2's enthusiastic acceptance could only have come from the corporate captain he is.

The Belly Of COMDEX

Paul and I descended from the top of the Riviera into the belly of COMDEX. For different reasons, we were both hoping that at least one of the 1700+ exhibitors would show us something paradigm-warpingly new. He was looking for breakthrough products because it's his job. I was looking because it's my dream.

It was obvious at once that we'd sift a lot of chaff before we'd find the seeds from which any desirable future might grow. There was no shortage of DOS clones so similar as to literally merit the name, or, for that matter, apparently identical disk drives, accounting software packages, databases, laptops, trade mags, networks, printers, boards, mice, modems, and monitors.

I began to wonder how any market could provide niches for so many perfectly redundant products. I'm still wondering about that. But at least the vast barrens of COMDEX made it clear to me who that market is: bureaucrats.

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Nowhere in evidence were such devices as one might use to re-vision the universe or expand consciousness. No, indeed. We're talking conscious-

continued

Rev. John Perry Barlow is a retired rancher, techno-crank, and the "other" lyricist for the Grateful Dead. He takes his ordination more seriously than most Universal Life ministers.

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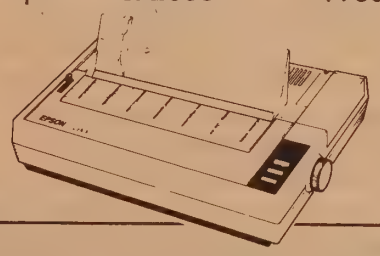

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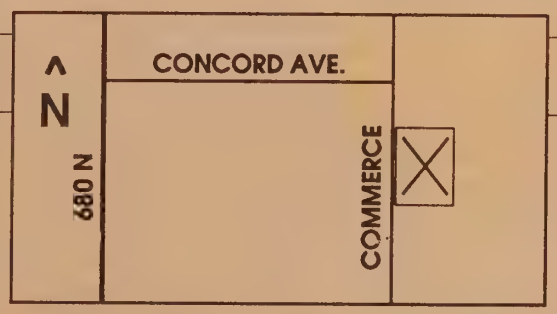

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ness contraction!

Plenty of which had apparently taken place. Take the matter of gender equality. After Paul and I had tramped three or four miles of COMDEX carpeting, I muttered, "Where do they get all these *girls*?"

Paul is from Berkeley and immediately asserted his political correctness with "Don't you mean to say '*women*'?"

I did not mean to say women, my choice of term having been guided by application. These persons, dizzyingly sexy in their short-skirted business suits, were unquestionably being *used* as girls. Or, more precisely, bait. Their employers hovered behind them, trolling the aisles for randy resellers.

Though their badges might indicate a position with Texxcom or PowerWare or whatever, many of them were obviously daylighting from such employment as "Nudes On Ice," and, in fact, I did see one of them well out of her business suit later on.

The marketers would have done better to employ these ladies in their professional capacity. A large number of companies were putting on small theatrical pieces. Given the talent displayed in them, one had to assume that many of the performers really did work for the company on a regular basis and were reviving thespian skills last exhibited in their Junior Class production of *Oklahoma!*

Small computers, rather than restoring individual creation, have become corporate "productivity tools," as much the means of dominating both individuals and information as were mainframes.

Apart from social benightedness, consciousness contraction had worked an intense effect on the nature of the displayed products themselves. It had squeezed most of the imagination out of what made it to this vast venue, a place where ideas should be the chief raw material.

For all the multitude of microcomputers, there are two permissible case colors: beige for the desk and flat black for the lap. You can't judge a box by its color, but it was no different within, where there were two permissible CPUs, the 80286 and the 80386.

Where was the Macintosh? Nowhere and everywhere. Actual Macintoshes were rare indeed. But an observer fresh to the scene would think that something very much like the Macintosh was the hottest news of the year. With the release of Presentation Manager, the graphical interface is at last IN. Never mind that few applications would actually run under PM, Microsoft *Windows* had the look.

The number of of passing moments when I *thought* I was looking at the paper white windows of a Mac screen would certainly bolster Apple's legal case against Microsoft.

We were treated to many demonstrations of the ease of such thrilling new technology as clickable icons, multiple applications running in tiled windows, and other elements of the desktop metaphor. The most shameless of these was IBM's own theatrical extravaganza which breathlessly demonstrated four-year-old technology as though it were tomorrow's.

"If this is so great," I asked Paul, "Why didn't these people go for Macs a long time ago?"

"Didn't know about 'em, I guess." After all, they weren't IBM technology. And, as is commonly known, no one was ever fired for buying Big Blue.

In others words, the tyranny of job security and consensus. The proper course is the one which won't get you fired. A market as paranoid and conformist as that defined by white collar managers will not exactly propel innovation by its hunger for the new. The results of this natural timidity showed all over COMDEX.

That which was innovative was almost invariably both developmental and foreign. Like Nissei Sangyo's optical disk jukebox, a storage device about the size of a Sun CPU into which one could pack a significant percentage of the Library of Congress. Or Sony's DAT tape drive which could store 1.3 gigabytes in a package so small you could probably use body cavities for smuggling it. Or Twix's personal data microwave which, for five grand, will blast your data across town at 19, 200 squeaky clean baud. This product came from those notoriously imaginative folks, the Swiss.

In search of American breakthroughs, Paul and I went to the Hall of Press Kits, a quarter acre of glossy PR. I descended immediately into datashock, stumbling behind Paul, stupid with brain-glaze. Never have I seen so many words say so little. Nor did one detect an endangering level of excitement out in the vast barrens of the exhibit halls. Aside from the dress code, the scene kept reminding me of a suburban mall a couple of days after Thanksgiving. Clutching their bulging and gaily-colored plastic bags, the COMDEX-oids had the look of shoppers in major migration. There was that same uneasy satiety, the same troubled self-absorption, the same utter joylessness.

Which made it a wonderful thing whenever we encountered anyone with the sparkle of actual interest, regardless of how morbid it might be. We fell in with a very alert young physicist from Xerox PARC one evening. He had little good to say about most of what he had seen but at least gave evidence of involvement with it.

The second night we ran into a couple of mathematicians from Autodesk whom I had barely met at the Hackers Conference. In this context, we greeted one another like separated twins. Like the physicist, they told us of The One Truly New Thing. In their description, it had a mythic quality. It would be hard to find...its location was difficult to describe. We would have to look hard.

They were right. We tramped the backwaters of the Hilton Exhibit Hall for hours before coming on it. There it was: the magic eyepiece, The Private Eye. The invention of a fellow from Cambridge named Al Becker, it provides the first heads-up display for people who are not flying supersonic killer jets. Hanging from a headset about two inches from one's left cheekbone, the tiny screen projects a virtual display into the middle distance. With it, you could probably operate a computer while doing about anything short of sleeping or making love.

The potential applications of this gizmo are limited only by the imagination, but, at the very least, it looks like a good way of getting people out of the office. Interestingly, Becker created it without any application in mind, hoping to inspire rather than meet the expectations of a market.

He had come to COMDEX in search of 100 people or companies who could imagine a truly interesting use for it. If you came up with a good idea, you would get a development prototype for next to nothing. If you didn't, you could be IBM and you still wouldn't get one.

Becker clearly had a unique sense of what he was doing. He had previously co-founded a couple of companies, Kurzweil and Cadmus, from each of which he had taken leave as soon as they became institutions. He actually seemed to like making ideas happen as much as he liked making money.

If there were more people in the computer business like Al Becker, COMDEX would be a very different experience.

Breakfast With Big Blue

Dawns my second day at COMDEX. Out on Convention Center Way, the suits are streaming eastward toward the hovering saucer of the Convention Center as though returning to the Mother Ship. This vision, combined with their regularity of gait and dispassion of expression, wedges me right into a remake of *Invasion of the Body Snatchers* before I've even had a chance to wake up.

I'm starting to feel what Dr. Thompson called "bad craziness." In the hope of restoring internal order as well as lowering my profile, I put on a tie. We are, after all, going to the IBM breakfast. Where craziness of whatever sort will be about as welcome as anti-matter.

By some miracle, we get a cab to the Tropicana. There IBM has rented for us a breakfast nook only a little larger than a football field. As the soon as the guards admit the gathered hordes, a sound system the wattage of which approximates the Grateful Dead's starts lathering us with synth-pop at a decibel level guaranteed to eliminate idle chatter.

This continues through breakfast. Which is a pity since I really want to hear what the IBM employees at our table are shouting at each other. Close up, they don't seem so much like cyborgs. I want to know them as humans.

Finally the Main Event begins. The lights are doused, the "music" swells, and suddenly the room is a cat's cradle of stabbing laser beams. To my complete astonishment, staid old IBM then puts on *a son et lumiére* display which would have caused a less composed acidhead to faint with joy. The only thing I've ever seen like it was Captain EO at Disneyland. It is a triumph of imagination, and I fully expect the crowd to head for the doors as though fire had broken out.

But they don't. They're captivated. When it's over, they hoot and whistle like a bunch of adolescents. I realize suddenly that businessmen hunger for imaginative daring as much as I do...they're just afraid to invest in it as individuals. Schooled up like this, and taken by surprise, they embrace it at once.

Unfortunately, the light show will be their last taste of it for the morning. Incredibly Big Management has a batting order of power speakers ready to whip us into a frenzy over Micro Channel architecture, OS/2, and SAA.

The lead was George Conrades, IBM's V.P. of Marketing. In a fairly short speech, he used the words "strong," "stronger," or "strongest" 27 times by my rough count. These combined with the frequent use of words like "aggressive," "driven," "optimize," and "strategize," the practice of hurling

continued

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consonants like darts, and an abundance of military metaphors to make it a vividly virile performance. That he pitched it to the management class was evident in the use of such magnificently bureaucratic neologisms as "solutioning."

But as far as I could tell, his style contained most of the content. The only thing he said which sounded like news to me was his characterization of IBM's mainframes as "super servers" for the PS/2 line, which, if indicative of IBM's new world-view, is one of the all-time great cases of a tail wagging a dog.

Though microcomputers still account for less than 7% of IBM's $50+ billion annual gross, the breakfast made it clear that they are taken very seriously. The folks in the Entry Systems Division, IBM's odd name for their microcomputer group, are no longer the "wild ducks of Boca Raton."

Don Estridge, the visionary computer hero who created the PC, is long dead, and in his place we have the since-departed Bill Lowe, who the *Wall Street Journal* once characterized as "an old-style IBM man," noting nastily that "his wooden public image has prompted some critics to dub him the Gerald Ford of the industry."

Hey, Jerry Ford was at least funny sometimes. Bill Lowe, both in his speech and in the following press conference, most assuredly was not. Neither were the ubiquitous Bill Gates (who gave another demo of the whiz-bang new graphical interface), David House of Intel, or Enzo Torresi of Businessland.

Not that they should bear any comic obligation. It's just that I regard the complete absence of wit to be the first and most pervasive symptom of totalitarianism. Whenever I find myself in a place which is completely barren of humor, I start looking around for evidence of thought control.

And the IBM breakfast was a wonderland of manipulated reality. Whether they were talking about the massive and enthusiastic acceptance of both OS/2 and the Micro Channel, or dismissing the threat of the Gang of Nine's EISA, or refusing to even admit the existence of the Macintosh, these were people who were able to describe a nonexistent world with as much sincerity as anyone in *1984*.

Indeed, the freebooters among them can slip seamlessly from one reality to the next without missing a beat. It was a very different world which Gates described when he addressed MacWorld Boston last summer. And I would imagine that Torresi sings another tune for a breakfast laid out by, say, Compaq.

I would be less concerned if I thought their inconsistencies were conscious lies. Rather they are adapting to an environment of consciousness where such fixities as The Truth simply don't exist.

Threat or Menace?

We are very proud of our freedoms in America, and yet most of us now work in corporate environments which restrict, distort, and confine our thoughts, words, and actions as rigidly as any communist regime. We exercise little choice in what we wear to work, where we live, what we say out loud, and finally, by habit, what we think to be true.

But wait, you'll protest, they'll shoot you in Russia if you don't go along. Naaah. They pretty much quit that years ago. The consequences of free expression in the Soviet Union are much the same as they are here: disenfranchisement and loss of economic security.

Bureaucracy is bureaucracy, is bureaucracy and it doesn't make a damned bit of difference what sort of purpose or ideology it adorns itself with. It is always a machine in which people are interchangeable parts and must behave accordingly. Small computers, rather than restoring individual creation, have become corporate "productivity tools," as much the means of dominating both individuals and information as were mainframes.

COMDEX gave me a vision of the future which would make the movie Brazil look like a day at the beach. I saw an economy entirely based on bureaucracy, every mother's son a "knowledge worker."

Most manufacturing will be devoted to electronically automating bureaucratic functions. The mountains of meaningless data will require desktop storage devices with capacities measured in terabytes. All real creation will cease and Americans would devote ourselves to an endless loop of office supply.

Everyone will wear a blue suit, stare all day into a CRT, give occasional power speeches to mask his cultural emasculation, suppress whatever errant ideas break through, live in Marriotts and secretly know that he is doing nothing useful at all. Meaning will be replaced entirely by job security. Production will be measured by data shuffled. No one will have any idea what the truth might be about anything. And laughter will get you fired.

COMDEX made me think that such a world might, like IBM, be "Right for Today, Ready for Tomorrow." ■

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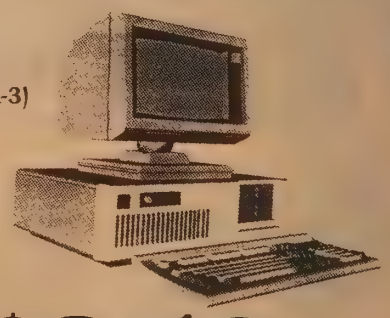

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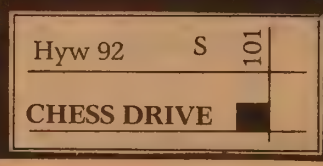

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Everex Step 386-16	**3.93**	**27.3**	**19.5**
Everex Step 286-16	**3.27**	**21.4**	**18.4**
AST Premium 386-20	3.04	20.0	21.0
Wyse 386-16	2.98	20.6	17.6
Acer 386-16	2.99	20.6	16.2
Compaq Deskpro 386-16	2.90	20.0	17.6
IBM PS/2 Model 80, 16MHz	2.87	20.0	17.6
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Text editors have positioning commands that move the cursor to the beginning of the next word and beginning of the next line. Most have commands to move it to the end of the current line and end of the previous line. But few have commands to move to the end of the current word or end of the previous word—move to their last characters—an often-useful function.

The Goddesses of Symmetry and Utility demand correction of this shortcoming.

Consumer Reports On CD-ROM

The last decade or so of the Consumers' Union's eminently useful *Consumer Reports* (monthly) and *Buying Guide* (annual, different content) should be economically available on CD-ROM with robust computerized indexing and fast retrieval.

C'mon CU; you provide invaluable consumer information. Don't limit its utility by bulk of paper and manual indexing. Note: Information on older products is useful to consumers of used stuff—cars, refrigerators, VCRs, etc.

I knew CD-ROM drives only cost a few hundred dollars, and there were some dandy CD-ROMs available—such as Microsoft's "Bookshelf" (containing 10 major reference "books" with interfaces to a dozen major word processors). But I didn't realize there were already several thousand CD-ROMs available—providing everything from Florida nautical sea charts, to white-page listings from 300 New England states' phone books, to census data and Library of Congress records. Still needed, however, is for the prices of many of them to drop by one or two orders of magnitude.

For a theoretically comprehensive listing, get a copy of CD-ROM*S In Print, 1988-1989*, from Meckler Corp. (11 Ferry Lane West, Westport, CT 06880).

Image Scanners And 35mm Lenses

Microcomputing piggy-backed much of its initial low cost on existent consumer products. Television sets begat low-cost displays; cassette audio tapes begat early low-cost mass storage; telephone lines begat low cost computer communications; videogames begat low-cost joysticks, etc.

With the onset of hyperstuff that uses images and pictures as readily as text, and lowering-cost gigabyte storage, it's time to have inexpensive digital-image scanners that use popular 35mm camera lenses—Nikon, Canon, etc. This would allow one scanner to be used to input a variety of images—"close-up" pages, drawings, photos, "distant" real estate pictures, and "far out" astronomical images—all by shared utility of 35mm camera lenses.

(Video cameras should also share 35mm lenses, but this isn't a video column.)

Lenseless scanner bodies—like lenseless camera bodies—should provide varied capabilities for varied prices. One variation would be binary black-and-white imaging (sufficient for text and tech drawings), or gray-scale B&W, or full color with single and multiple intensity bits per color pixel. Another range should be pixels per unit on the scanner's image surface; note that pixels per unit of the original image or scene would depend on the lense being used.

Autodesk's founder, John Walker, tells me that such gadgets were at least once available from Data-Copy in Mountain View, and Iconix in New York state—but definitely not cheap.

Also: I wonder how this dovetails with the electronic-image still cameras now being developed in Japan?

Be Loyal To Apple—Don't Buy Macs

Some months ago (editorial lead-times are infuriating!), while most micro makers were announcing lower prices for hardware with higher capabilities, Apple announced higher prices for current products—most notably their Macs. Part of the rationale for the price increase—at least unofficially—was that the Mac was becoming so popular that Apple was backlogged on Mac orders.

Well now, if Apple increased their prices because they had too many orders, we should certainly continue the strong customer loyalty that has done so much to build Apple: We must forgo buying Macs until that nasty ol' backlog is overcome and Apple has excess inventory, so it can loyally lower its prices for its loyal customers. (Be sure to drop a note to John Sculley saying why you're delaying your Mac purchase.)

As a consumer fantasy, let us prove that loyalty is valuable—and reciprocal.

Legalize Fishing Worms

Last November, we had a national front-page furor over a computer "worm" (incorrectly called a "virus" by most of the unknowledgable media). That worm pulled down most of the UNIX-based computers on Internet.

But computer worms—like fishing worms—can be of great value. In the midst of the howls for still more repressive statutes, perhaps poorly drafted by ill-informed congress-people—who may be eager for the accompanying publicity—let us explicitly *permit* useful worms that catch system security holes:

Laws should protect worm-makers who succeed in penetrating networked computer systems

Laws should protect worm-makers who succeed in penetrating networked computer systems, provided their worms do nothing more than announce their presence—and perhaps, in the process, embarrass too-complacent system bureaucrats. Like protecting "whistle blowers" who identify faulty or costly projects, such worm-makers should be permitted and encouraged. They are particularly important in detecting and correcting computer insecurities before such frailties cause harm.

If I remember correctly, Stanford Research Institute once had a high-priced research group whose singular function was to penetrate supposedly "secure" systems. This clearly valuable function is apparently now available for much lower cost—just worm-makers' ego strokes and bureaucrats' earned embarrassment.

Accurate Reporting About Computing

While we're on the subject of last November's Internet worm, let's consider a fantasy desperately needing realization—accuracy in reporting about computing. For instance:

Some ill-informed press and teevee reporters performed a sensationalizing disservice. They said the "virus" (worm) penetrated a Department of Defense computer system—frightening!—but failed to emphasize that the network was DoD only by funding. Though many reporters included this important point, too many said little or nothing about these facts. It wasn't a defense system. It contained essentially no classified information. It was not used for any real military computing. It was mostly university computers, to which many thousands of "insecure" students and faculty have extensive access. These facts cast a very different light on reports that a Defense Department computer system had been penetrated.

You can help: Write letters to editors and station managers when you see such disinformation—or dis-implications—about computing. Responsible journalists will accept, appreciate, and remember such contributions to accuracy.

Suggestions Solicited

Send suggestions for this column to Jim Warren, Realizable Fantasies, 345 Swett Road, Woodside, CA 94062. Published proposals will be attributed to their authors unless anonymity is requested. □

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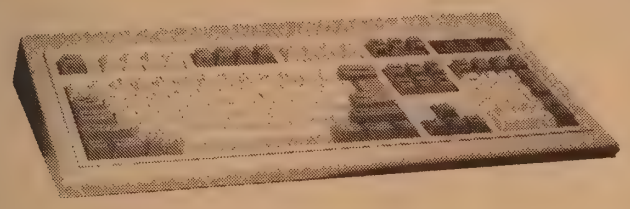

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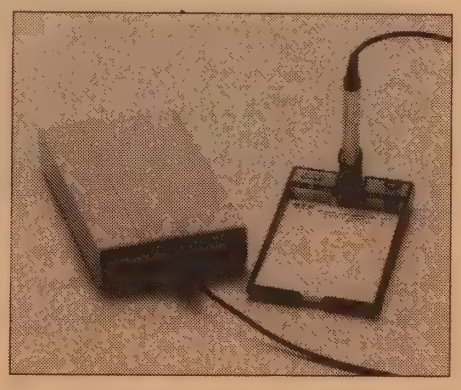

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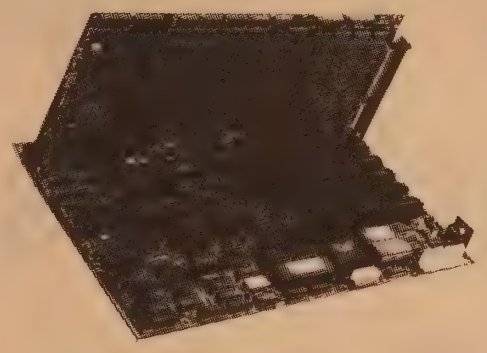

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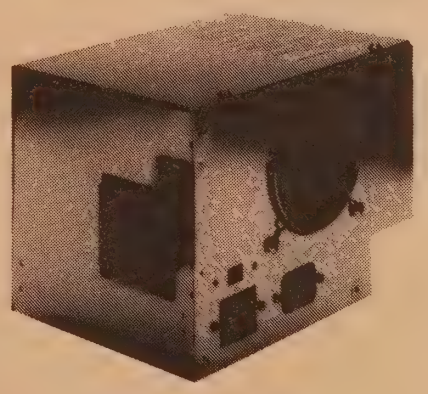

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Doug Engelbart: The Vision Continues

By Howard Rheingold

Says Engelbart, who envisioned the mouse, the word processor, and "groupware" decades ago: "The world is getting more complex at a higher rate and we need new capabilities to deal with that."

On a December day in 1950, Doug Engelbart had a vision. He saw a theater-like environment of the future in his mind's eye, a problem-solving workshop where people would create and handle knowledge in wholly new ways, working at large display consoles that displayed text, graphics, and animated models. He had been thinking about the growing complexity of the world's problems, and wondered how he could contribute to a solution. In a flash, Engelbart realized that the newborn technology of electronic computers, linked together with other infant technologies such as television screens, could multiply people's abilities to tackle problems.

Unfortunately, nobody in computer science or the computer industry had the faintest idea of what he was talking about. In 1951, there were about a dozen computers in the world, and they did nothing but mathematical calculations, almost exclusively for the military. And along comes this electrical engineer from California saying that computers will change the way office workers, engineers, educators, accountants, managers, designers do their work. People just looked at him blankly.

The term "knowledge worker" wouldn't be coined for almost two decades after Engelbart started building tools for them, but with the help of enlightened research funders in the Defense Department's Advanced Research Projects Agency, NASA, and the Air Force, he did what few visionaries are able to accomplish: he built working models of the devices he imagined years before. He showed that computers could be operated by non-programmers, and demonstrated dramatically how they could be used to amplify people's thinking capabilities. If you ever use a mouse, a word processor, an outliner, you are using the direct descendant of one of Engelbart's brainchildren.

His first technological prophecies, and the research effort he built upon their basis, led directly to the development of the mouse, video display editing (and its natural descendant, word processing), windowing, hypertext links, outlining, mixed text and graphics, shared-screen conferencing, computer conferencing, and collaborative composing and editing software.

These inventions and others emerged from the government-funded Augmentation Research Center (ARC) Engelbart set up and supervised for 14 years at Stanford Research Institute (now SRI International). In one spectacular demonstration in San Francisco's Civic Auditorium in 1968, to the Fall Joint Computer Conference, Engelbart led the ARC crew through their paces and forever changed the way computer designers think.

Now that the hardware components of the system Engelbart worked on for decades are finally becoming commercially available, the social innovations he also forecast are emerging in the form of buzzwords like "groupware".

ARC is history, but Doug Engelbart is still in the vision business. This time, he's talking about a new agenda for the next 25 years. When he publishes his current work-in-progress, it might not hit the *New York Times* best-seller list, but you can be sure that it will be on key desks from Silicon Valley to Tokyo within a week of publication. Many of his former colleagues, students, and research assistants are now in positions of power at Apple, Sun, DEC, Adobe, and other influential companies.

When Engelbart published "A Conceptual Framework for the Augmentation of Man's Intellect" in 1963, he found it discouraging that an idea of such high potential payoff to everyone on earth was met by exactly zero reprint requests after it was published. Today, he sends out more reprints of that paper in a week than he did for the first year after publication. Intriguingly enough, now that the hardware components of the system Engelbart worked on for decades are finally becoming commercially available, the social innovations he also forecast are emerging in the form of buzzwords like "computer supported collaborative work" and "groupware." If you want to see how these "new" notions fit into a larger framework, consider what Engelbart said about them in 1963.

"Augmentation" And What It Means

It all goes back to "augmentation" of human intellect, an idea that emerged from his original vision. In the early 1960's, there was much talk of "automation" — the now-familiar process by which machines, usually computer-directed, replace humans in fields, factories, and offices. Augmentation, however, doesn't use the computer to replace a human, but to amplify his or her mental capabilities. If you ask Engelbart what aug-

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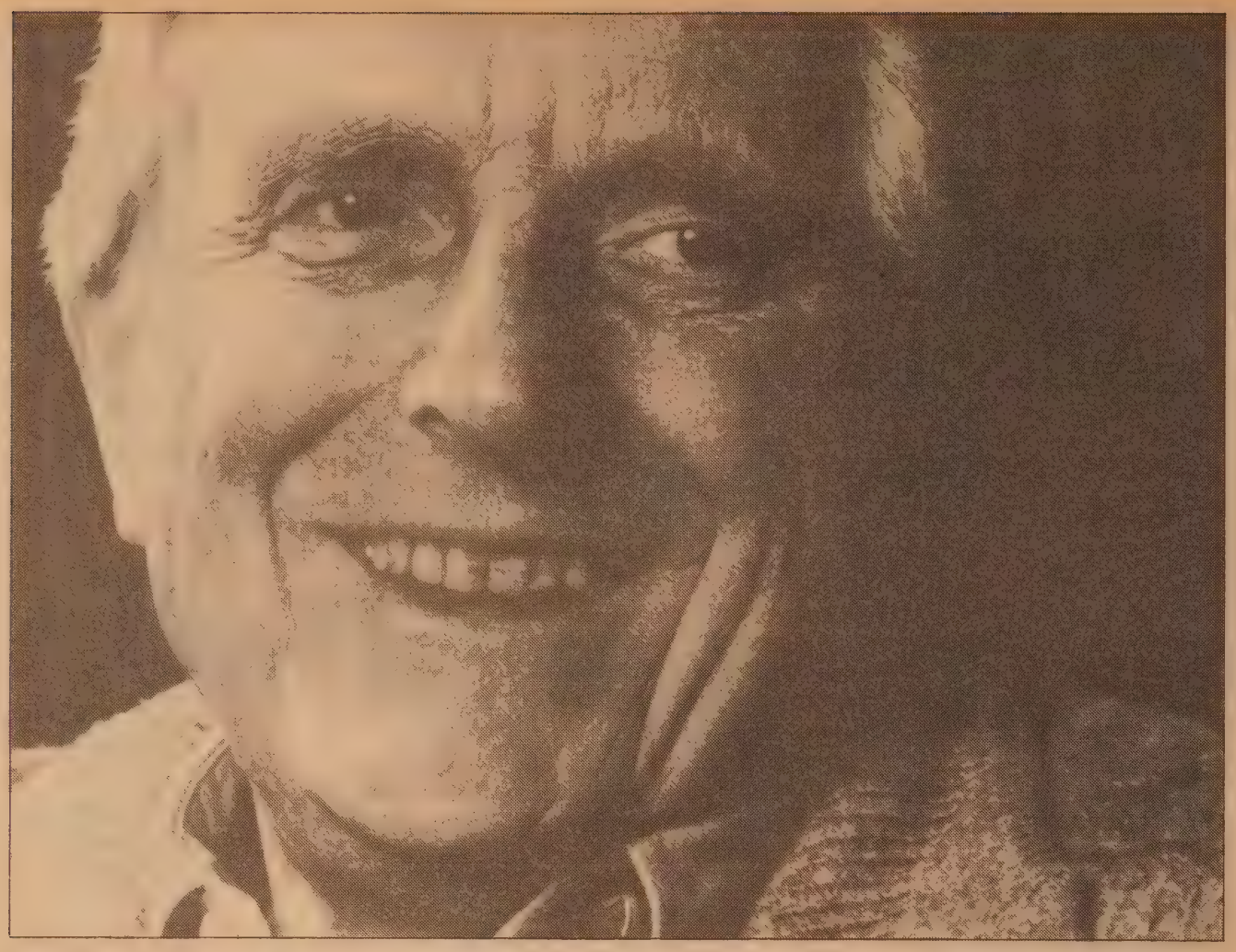

"Right now, hypertext people are crashing ahead to get something on the market, but they also ought to be thinking about the generalized use of products in the future, so they will be able to make use of each other's hypertext products, including the links."

mentation means, and if you are sitting in his office when you ask the question, he opens a drawer in his desk, hands you a pencil taped to a brick and asks you to sign your name. Then he hands you an unencumbered pencil and says: "There—you've been augmented." Metaphorically speaking, Engelbart's visions of computer collaboration tools have concentrated on removing the bricks from human thinking, communicating, and decision-making processes.

It was a tall order. Computer scientists, information specialists, educators found his idea impossible to grasp when he first started talking about it. Before he could build his first input device or write his first line of code, Engelbart had to conceive and communicate an entirely new way of thinking about the way people work as a preliminary to creating a new way to use computers. Read this passage as if it were written in 1988 instead of 1962 and see how it reads as a picture of the 1990s:

"By 'augmenting man's intellect' we mean increasing the capability of a man to approach a complex problem situation, gain comprehension to suit his particular needs, and to derive solutions to problems. Increased capability in this respect is taken to mean a mixture of the following: that comprehension can be gained where previously the situation was too complex; that solutions can be produced more quickly; that better solutions can be produced; that solutions can be found where previously the human could find none. And by 'complex situations' we include the professional problems of diplomats, executives, social scientists, life scientists, physical scientists, attorneys, designers — whether the problem situation exists for twenty minutes or twenty years. We do not speak of isolated clever tricks that help in particular situations. We refer to a way of life in an integrated domain where hunches, cut-and-try-intangibles, and the human 'feel' for a situation usefully coexist with powerful concepts, streamlined terminology and notation, sophisticated methods, and high-powered electronic aids."

It all sounds so fundamental and mundane now that it is hard to grasp how inexplicable his prophecies sounded to people in 1950. Computers then were pathetically puny compared to today's technology—the notion of multi-kilobyte main memories was science fiction. The word megabyte hadn't been invented. And computers were almost always used for ballistics calculations. Even elementary business data-processing was futuristic back then. And here was this fellow with his gaze on the horizon, talking about graphics and text and screens and problem-solving teams...

Engelbart was one of the first to understand that computers could be used as intellectual tools by a wide range of people, but he also maintained, then and now, that hardware and software are low-level components of the whole system he intends to augment. Human intellect uses tools, but the power of the human mind is not itself limited to the tools the human brain automatically provides. Normal humans are born with a power to learn. Parents, teachers, and communication media amplify that power. Language, tools, working methods, training, and education are all part of a system by which our culture augments our inborn intellectual capabilities. Engelbart meant to accelerate this natural evolution of thinking tools:

"The system we wish to improve can thus be visualized as comprising a trained human being together with his artifacts, language, and methodology. The explicit new system we contemplate will involve as artifacts computers and computer-controlled information-storage, information-handling, and information-display devices..."

Another thing Engelbart believed then and still firmly believes is that the integrated system he envisioned involves a lot more than creating hardware and software and training users. He always has been concerned with discovering how to adopt new ways of thinking as well as making familiar intellectual tasks faster and easier. Exactly how did he propose to use computers to boost intellectual capabilities? Engelbart pointed out that people organize our intellectual problem-solving tools in a kind of hierarchy, with simple "mindless" tools toward the bottom and "higher function" ones toward the top. He had a hunch that by tinkering with the right parts of this hierarchy he could change the whole system:

"It is likely that each individual develops a certain repertory of process capabilities from which he selects and adapts those that will compose the processes that he executes. This repertory is like a toolkit. Just as the mechanic must know what his tools can do and how to use them, so the intellectual worker must know the capabilities of his tools and have suitable methods, strategies, and rules of thumb for making use of them. All of the process capabilities in the individual's repertory rest ultimately on basic capabilities within him or his artifacts, and the entire repertory represents an integrated, hierarchical structure (which we often call the repertory hierarchy)."

As an example of such a hierarchy, Engelbart discussed the process of issuing a memo, a task that involves putting information in a formal package and distributing it. The reason for writing the memo, the memo writer's role in the organization, the intended audience are higher level components of the hierarchy. At an intermediate level are skills of marshaling facts, soliciting opinions, thinking, that go into composing the content, and all the communication skills involved in drafting it. Toward the bottom of the hierarchy are the tools used to prepare the memo and the medium by which it is communicated — typewriter, pencil, paper, inter-office mail.

Engelbart proposed a hypothetical method for boosting the effectiveness of the whole system by introducing an innovative technology into a relatively low level of the hierarchy. "Suppose you had a new writing machine," he wrote, "a high-speed electric typewriter with some very special features:

"This hypothetical writing machine thus permits you to use a new process of composing text. For instance, trial drafts can rapidly be composed from rearranged excerpts of old drafts, together with new words or passages which you insert by hand typing. Your first draft may represent a free outpouring of thoughts in any order, with the inspection of foregoing thoughts continuously stimulating new consid-

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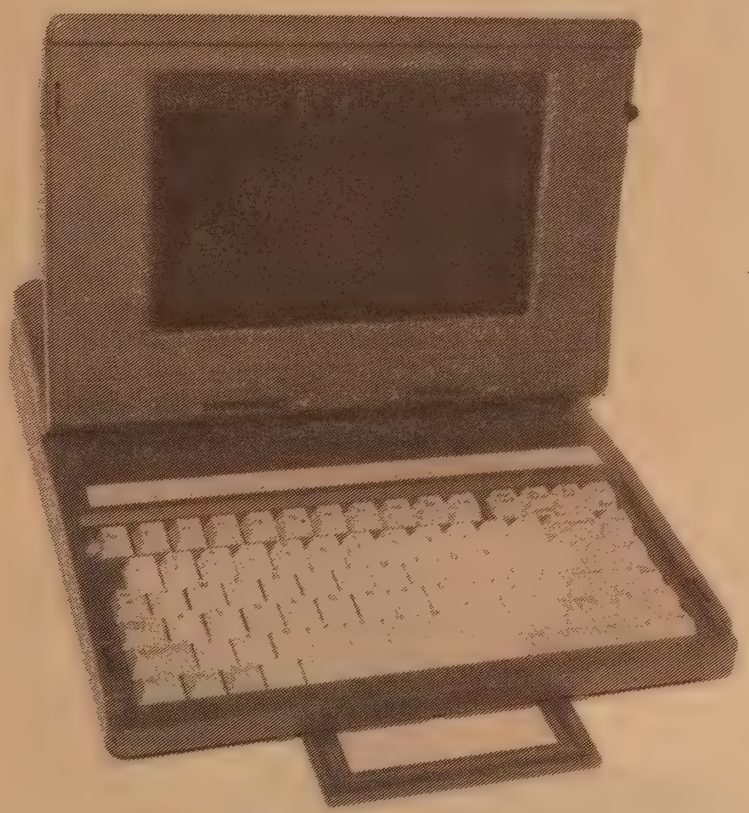

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"You can integrate your new ideas more easily, and thus harness your creativity more continuously, if you can quickly and flexibly change your working record. If it is easier to update any part of your working record to accommodate new developments in thought or circumstance, you will find it easier to incorporate more complex procedures in your way of doing things...

"The important thing to appreciate here is that a direct new innovation in one particular capability can have far-reaching effects throughout the rest of your capability hierarchy. A change can propagate up through the capability hierarchy, higher-order capabilities that can utilize the initially changed capability can now reorganize to take special advantage of this change and of the intermediate higher-capability changes. A change can propagate down through the hierarchy as a result of new capabilities at the high level and modification possibilities latent in lower levels. These latent capabilites may have been previously unusable in the hierarchy and become usable because of the new capability at the higher level."

Engelbart proposed that the use of computers to augment human thinking represents a new stage in the evolution of human intellectual capabilities. The ability to think, to manipulate concepts, based in the biological capabilities of the human brain, was the first stage. The next leap forward followed the discovery of methods for manipulating symbols—speech and writing. The printing press brought machines into the process and accelerated all kinds of revolutions worldwide. Engelbart's example of a computerized typewriter was an instance of the coming fourth stage made possible by the application of computers to the processes of thinking and communicating:

"In this stage, the symbols with which the human represents the concepts he is manipulating can be arranged before his eyes, moved, stored, recalled, operated upon according to extremely complex rules—all in very rapid response to a minimum amount of information supplied by the human, by means of special, cooperative technological devices. In the limit of what we might imagine, this could be a computer, with which individuals could communicate rapidly and easily, coupled to a three-dimensional color display within which extremely sophisticated images could be constructed, the computer being able to execute a wide variety of processes on parts or all of these images in automatic response to human direction. The displays and processes could provide helpful services and could involve concepts not hitherto imagined (e.g., the pregraphic thinker would have been unable to predict the bar graph, the process of long division, or card file systems)."

Admittedly, it doesn't sound that esoteric today, but it did sound esoteric to just about everybody for the first couple of decades Engelbart talked about it.

Engelbart Now

What is he talking about now? Over the last few months, Engelbart has been meeting with old and new colleagues about an unfinished agenda he is preparing to present to the world again, now that the world seems to be ready for it. I attended several of these meetings, and in conversations at his house and mine, and via email and telephone, we talked about the broad outlines of his next vision.

Doug Engelbart chooses his words carefully. And he insists on looking at whole systems even when you ask him to show you a part. Again and again during our discussions, he declined to define something unless he was given another 20 minutes to define the rest of the system the "something" was part of. Right now he is working, slowly and painstakingly as ever, to articulate his new vision with the same precision he put into his 1962 "Framework" and at great enough length for the whole paradigm to be clear. He has been willing to speak very generally about some of the issues raised by "the bootstrapping strategy."

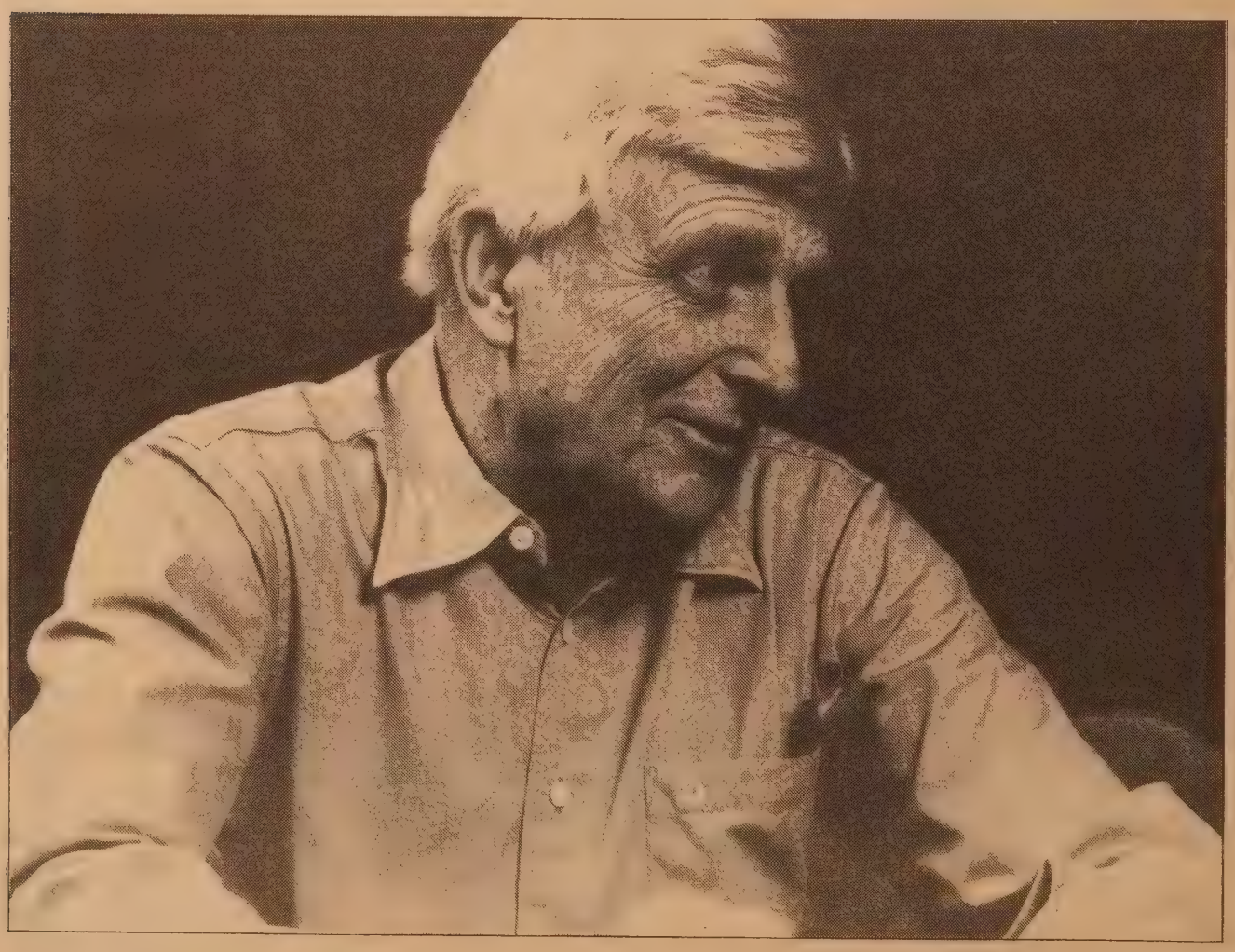
Briefly, Doug Engelbart is saying that it is time to pay attention to the way organizations and information technologies co-evolve. Just as the computer interface evolved and enabled people to use computers to do their old jobs in new ways — and do new jobs that weren't possible without computers—it is time for organizations to evolve in conscious response to the "augmented knowledge workshops" in their midst.

Doug, what is your vision today?

In many ways it is the same: people use computers and other technologies, along with new methods and languages, to solve problems together. And they do it systematically, so they can evolve their methods and languages as their technology evolves. In 1963, the challenge was to build the technology. But if you go back to the papers I wrote in 1962 and 1963, I was explicitly talking about organizational change along with technological change. In the '60s I did a lot of thinking and some writing about the need for communities to get involved in the evolution of tools and toolmaking environments.

I still think it's a good idea. I don't think it is accurate to say that organizational change — new roles and methods and structures within and between organizations — had to wait for the technology to advance. Technology was not the main constraint. People's attitudes were the main constraint. Sure, technology has evolved, but to me it is more significant that people's attitudes have changed. That's one reason why I think the time is ripe for looking at planned coevolution. As companies look at the problems of selecting and installing extensive and expensive information technologies, they are understanding that they also have to plan for the cultural and organizational changes that are going to accompany the technology.

It's not just that people are seeing elements of the old vision that they didn't see before. Organizations are beginning to think about how they are going to respond to the cultural changes triggered by the technology. The increasing complexity of the



"Augmentation doesn't use the computer to replace a human, but to amplify his or her mental capabilities. Metaphorically speaking, Engelbart's visions of computer collaboration tools have concentrated on removing the bricks from human thinking, communicating and decision-making processes".

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"If it is easier to update any part of your working record to accommodate new developments in thought or circumstance, you will find it easier to incorporate more complex procedures in your way of doing things."

global business environment is also forcing organizations to look for ways to manage change. The field of organizational development came along and more recently organizational transformation came along. Organizations of all kinds now regularly hire specialists to help them change and help them deal with change. At the same time, many of the same organizations are also installing sophisticated computer and communication technology. The real leverage is in building it all into one integrated system.

So a lot of my current concern is focused on the same drive that got me started in 1950, the recognition that the world is getting more complex at a higher rate and we need new capabilities to deal with that. Organizations are the vehicle by which people tackle complex problems, and the kind of technologies and methodologies I was talking about in my framework are tools for tackling complex problems. The real power of the system lies in cultivated coevolution of technology and organization, tool, and role. That's where the bootstrap strategy fits in.

"Bootstrapping" is another term you used way back when, and you seem to be using it frequently nowadays. What do you mean by "the bootstrap strategy?"

I guess it has been one of my favorite themes since I was a kid and read that Paul Bunyan could lift himself up by his bootstraps. In engineering, the term "bootstrapping" describes the process wherein the results of a given effort are fed back into the activity in a reinforcing way, so that less internal energy is required thereafter to achieve bigger and faster results. When we started building our augmentation research center, we set out to build hardware and software tools and develop methods that would help us design and build new hardware and software tools and methods, and we were consciously committed to continually learning how to use new systems. That was one kind of bootstrapping.

I often look for the point of maximum leverage. That's what got me into thinking about computers as problem solving tools in the first place, because I saw they could give people leverage with the complex problems I saw coming. If you are thinking about augmenting individuals and groups within an organization, and you want to evolve this augmentation with the highest degree of leverage so that the entire organization gains maximum benefits, what you do is begin by augmenting the organization's ability to evolve.

What do you mean by "coevolution"?

Whenever you have a system with interdependent subsystems, and you observe the larger system evolve, you realize that what goes on in one subsystem affects what goes on in the other. But it has been happening haphazardly. When you pursue augmentation of individuals you have to look at the way methods and roles will change. You can't get there simply by automating your old methods and leaving it at that. You have to find the best new methods to use the evolving technologies. The two subsystems of human systems and technological systems are interdependent. You have to give coordinated attention to the simultaneous opportunities and needs that emerge.

Augmentation is more than just the tools. Look at the way the whole system changes when you are changing one of the parts. Look for the coevolutionary response.

You seem to envision groups of people working together pretty universally, workstation to workstation. The assumption underlying that vision is that some kind of universal data interchange and integration is essential to taking advantage of augmentation on a society-wide scale at a level we don't see in today's fragmented and competitive hardware and software market. What do you think needs to happen in terms of industry standards for this basic systems architecture level of your old vision to come true?

I'd like the standards committees to think in terms of the future. They are discussing document content architectures now—standards that will enable me to send you a document and you can print it out, regardless of our equipment. But they need to also think about what you do about a hypertext document and you want to make links universally available. Hypertext in the sense I've always used it means links, and in the augmentation systems I've used, I can send you a link that points to part of another document. Those links and pathways have to be expressible across different systems.

Right now, hypertext people are crashing ahead to get something on the market, but they also ought to be thinking about the generalized use of products in the future, so they will be able to make use of each other's hypertext products, including the links. We need a serious dialogue about the universal requirements for hyperdocument architectures.

There is a long history of standardization in the communications business—different telephone companies agree on standards to make a universal network. Now we need a universal hyperweb.

"Hypertext" certainly isn't an esoteric term anymore. One of the new buzzwords is "groupware." That sounds rather Engelbartian. Would you care to comment?

As I understand it, "groupware" is a name for kinds of software that provide for cooperative capabilities among a group. It's too new to know what the creators or users of these terms have in mind, but I do know that beyond the hardware and software you need a methodology for working together—in fact, when you get started, you need a methodology for learning how to work together. That's where your first pilot projects and bootstrapping teams will come in.

One way to describe this stage in development is to compare it to the way the Japanese rebuilt their industrial infrastructure after World War II. Faced with building from the ground up, they deliberately decided to concentrate their first efforts on building tools that make machine tools. When their first industries began to tool up, their tooling-up capabilities were tremendously augmented. The whole industrial infrastructure had an incredible flexibility, and we can see how that has paid off.

That's how we should approach computer-supported cooperative work in organizations: we need to think about building the tools to build the tools. Sure, we can boost people's productivity by using the tools and methods that now exist, but in terms of the system that is going to give you maximum leverage for everybody, it's too early to buy solutions off the shelf. We have to build prototypes and pilots and learn how they

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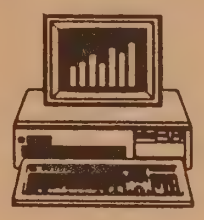

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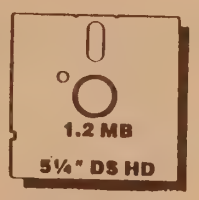

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work, just as we did with the user interfaces we built at SRI ARC in the 1960's and 1970's.

How about "high-performance teams?"

Prototype organizational units or pilot teams are a big part of what I think needs to be done, because it is very expensive to change a whole organization to a new kind of configuration, and it is too hard to make a realistic laboratory simulation. So the organization needs prototype units within it that scout ahead—people get equipped and start learning. I think this is an important part of a viable approach to this evolution. Some of these prototypes you want to put way out in front. These teams would be specially recruited.

A natural kind of pilot is a group that is already working together on some mission. Give them the tools and the training and help them retool to do their job better and start teaching others how they did it. Start moving them ahead. Besides that natural kind of pilot, however, it is imperative that you make more intentional pilots and go way out there, beyond the way they do their jobs today. You probably will have to take them offline for a number of months to get them ready. They have to be committed to retooling on the fly, and retooling again, although it might be tempting to stop and devote the new capabilities exclusively to doing their old jobs better. You want to find people who are enthusiastic enough about the idea to agree at the outset that they are going to go through basic training and conditioning and the stress of change.

People can elastically accommodate only so much change. The people part of a natural pilot will only bend so far. That limits how far you can get people to move in any one step. It isn't easy to keep up with your old responsibilities within an organization when you are trying to break through to entirely new ways of doing things. When the first person gets uptight about the pace of change, it signals trouble for the group. Which is why it is imperative to explore further out with intentional pilots.

As a special kind of intentional pilot, I often think of a very high-performance team. Of course, if you are going to create such a team, you need to be clear about their tasks and roles: What job are they supposed to perform highly at? Becoming outstandingly effective at facilitating the handbook cycle of a working group or project is the target role for a high performance team that I come back to time and again when I think through this. A high performance team that becomes skilled at bootstrapping the handbook cycle is the highest leverage place to augment in an organization.

What do you mean by "bootstrapping the handbook cycle"?

A "handbook," in the sense I use it, is the term I give to that which exists in every project and is important, but is often not explicit or even noticed. Every mission-oriented group builds for itself an organized body of knowledge that represents the accumulation of what they've learned in the pursuit of their goal. It includes all the stuff in the procedures manual and all the stuff that isn't in the procedures manual. At any time there is a body of knowledge that represents the current status of the understanding of the group. Plans, decisions, commitments, contracts, records of meetings, documentation, designs—the entire, integrated body of knowledge that represents the status and direction of the project—is part of the handbook. A lot of that often is carried around in people's heads.

The task of many projects is to evolve their handbook to its final state. "The handbook cycle" is my way of giving a name to the process of evolving a handbook, to make it explicit and target it for bootstrapping. At any point in the development of a project, there are ways to look at the state of the handbook, and to propose, debate, and decide upon ways to improve the handbook.

Through this collaborative knowledge-work process, the handbook takes shape. Can you build a high-performance team whose task is to be better at supporting the evolution of handbooks? What would it do to an organization to plunk these teams into different working groups and help those groups evolve their handbooks more effectively. Can these super support teams help larger project groups to do better in regard to structuring and organizing, integrating commentary and dialogue into the process? That cycle of having a lot of recorded dialogue and testing and integrating into the next level of the handbook is how knowledge evolves in organizations anywhere. The handbook cycle is precisely where you can gain your highest-leverage bootstrapping—not only do you boost your capability to do your designated task, but you boost your capability for boosting your capability. ❑

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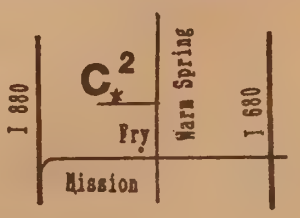

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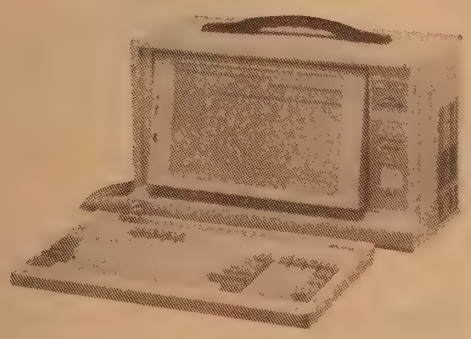

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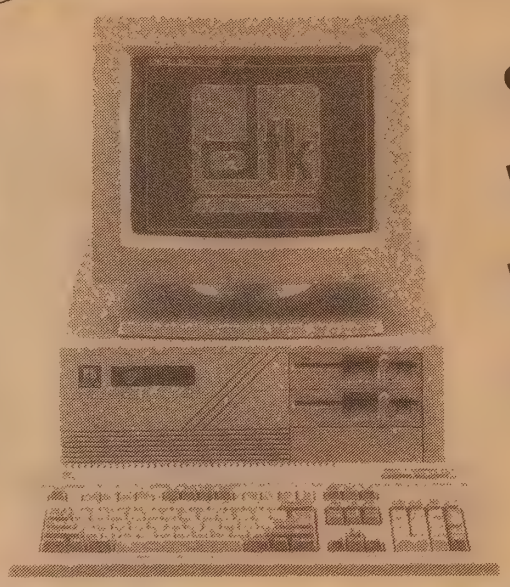

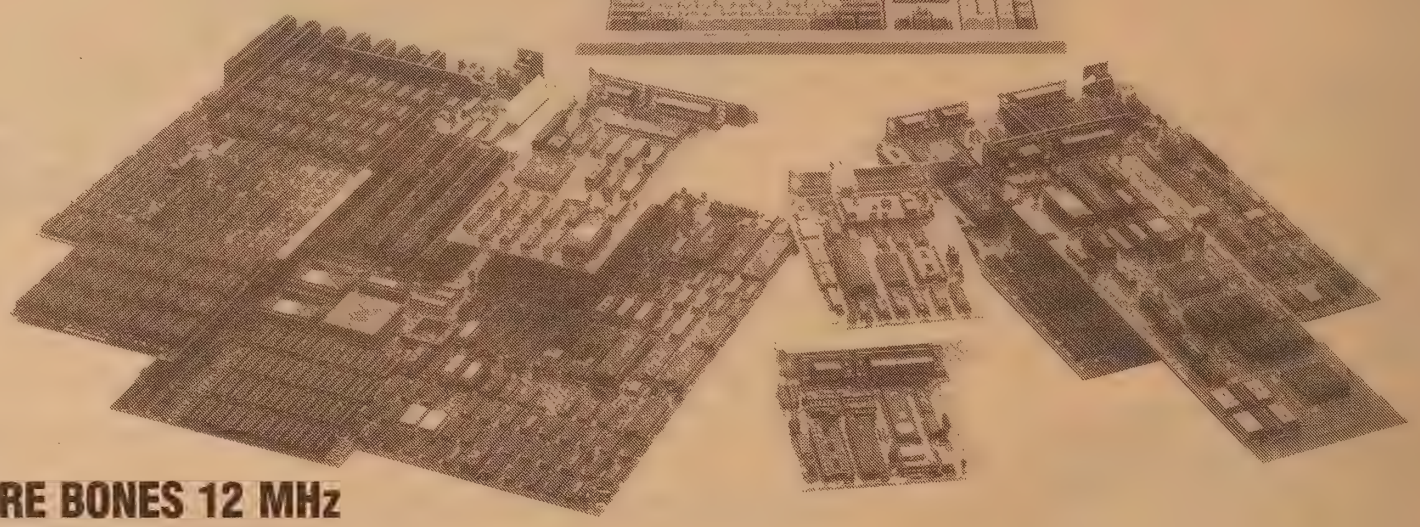

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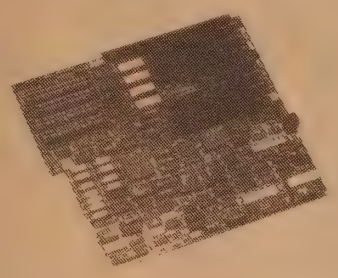

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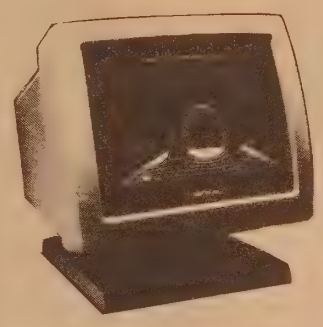

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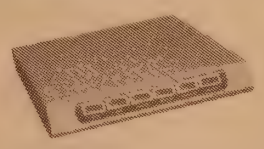

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Outside Apple

CEO Bill Campbell On The First Year At Claris

By Mary Eisenhart
Photos: Patricia Leeds

It's December 20 at Claris, and Bill Campbell is looking at me as if I bear the Mark Of Geraldo.

Specifically, he seems to be having grave misgivings about the wisdom of letting A Journalist anywhere near Chief Financial Officer Dan McCammon's office.

However, it's too late. Public relations manager Dan Rampe and I have joined the throng of giggling and slightly nervous Claris-ites gathered a safe distance from the now denuded-of-furniture office of the CFO. Inside the office, on a fresh carpet of straw, stands an elegant, equally nervous cow of the general Brahmaesque persuasion, who's getting reassuring pats from an agricultural gentleman who manages to look more than a little like a Forth programmer.

It's McCammon's birthday, see, and this unexpected denizen of his office is the culmination of weeks of elaborate subterfuge.

Why a cow? "Well," says Rampe, as we're heading back to Campbell's office to address the business at hand, "Dan's from Texas, so we figured he knew about that stuff..."

Campbell's feeling a little gun-shy about journalists. Not unreasonably, all things considered, since the still-unannounced product he now refers to as the "no-comment word processor," the feature-laden successor to the aging MacWrite, has been extensively discussed in the Mac press for weeks. The leak, apparently, was not intentional, and Claris is now steadfastly refusing to even discuss whether it's going to announce any products at the upcoming Macworld Expo in San Francisco.

Claris was founded in 1987 in response to concerns among the third-party Macintosh developer community that Apple ought not to be in the applications business. On due reflection, Apple agreed, and spun off Claris. The company is now a subsidiary of Apple, ensconced in its own headquarters in Mountain View; sometime in 1989, the company hopes to have an Initial Public Offering of Claris stock, with Apple continuing to hold a minority interest.

In its first year of existence, Claris has released updates for the four Mac packages it received from Apple: the low-end *MacPaint* and *MacWrite* and the more sophisticated *MacDraw* and *MacProject*. It filled out its product line with a series of acquisitions and internally-developed products: *FileMaker* (acquired along with its parent company, Nashoba Systems), the *SmartForm* series, and *Claris CAD*. On the Apple II side, in addition to the perennial favorite *AppleWorks*, which it brought over from Apple, Claris offers *AppleWorks GS* and *MultiScribe GS*, which it acquired along with their developer, StyleWare.

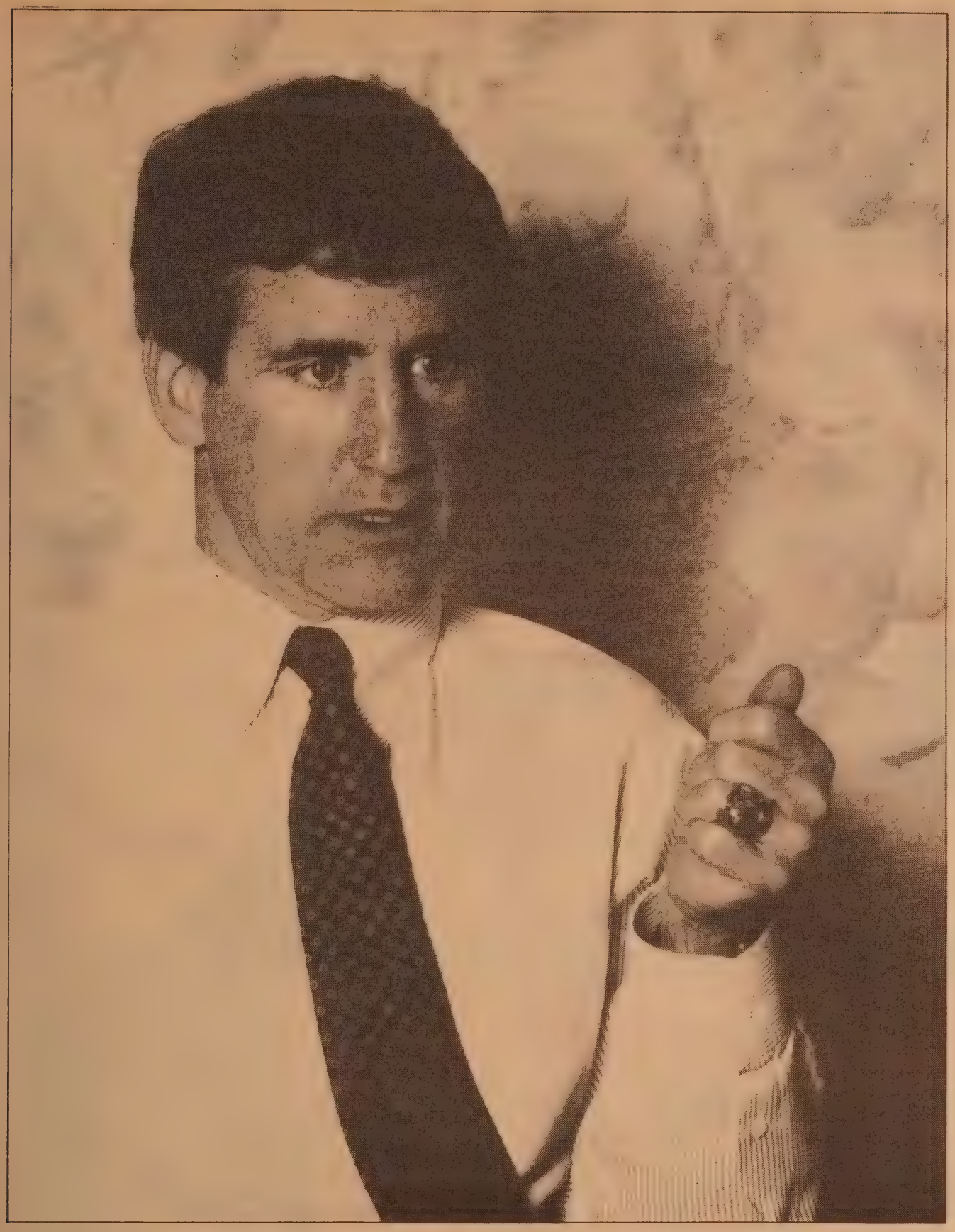
Perhaps because of its unusual origins, Claris has been the subject of rumor and speculation since its inception, to a degree which still seems to surprise even a long-time Apple veteran like Campbell. Formerly executive vice president and group executive for sales and marketing at Apple, Campbell was involved in the creation of Claris from the beginning and has been in charge of the fledgling company since it was spun off. After a year of working to bring Claris to a position of independence from its parents and establish it as a serious contender in its own right, he managed to take some time from a frantic day (even without the bovine distraction) to discuss the company's origins, strategy and future.

To backtrack a little, what was the genesis of Claris and the thinking behind it, and where are you with regard to Apple now?

Claris was born out of a little bit of controversy. At one point Apple—I was part of Apple's management team at that time—had decided that we were going to bring in *4th Dimension* from ACI in France, and that we were going to put an Apple logo on it and distribute it in the US.

Now the fact is that Apple had been labeling applications since 1983 with *AppleWorks*, '84 with the Macintosh applications. And the reason that the Macintosh applications were bundled was twofold. First of all, the reason that they were labeled at all and then bundled was that Steve Jobs felt, in his wisdom, that in order to define a new hardware-software platform standard, he needed to demonstrate its capability. The uniqueness of that platform was demonstrated by *MacWrite* and *MacPaint*, consistency of interface, ease of use—he was very rigid about the rules: Write to the toolbox so that the consistency would be maintained. And as you can tell today, on the eve of 1989, that has worked phenomenally well. Over a period of of time two other applications were labeled, *MacDraw* and *MacProject*.

Soon those products were capable of being exceeded by third parties. And the Apple logo was a competi-



"We will take metaphors that have been previously thought of as inaccessible and make them accessible. Our role in word processing is not to go higher and higher and higher and make it more complex. What we would like to do is give, in another generation of word processor, more of the features that users want without losing that accessibility."

tive threat. Primarily because the Apple logo added value in excess of the product's ability to perform.

People would default to it.

Absolutely. So basically what we had done is let the applications...I won't say let them decline, but they were not really improved. People were able to exceed those. Apple was in a little bit of a bind, not having updated the applications, not having provided support for them, as well as competing with third parties.

Well, the catalyst was *4th Dimension*. The decision to bring that inside was met, in the software community, with great hostility, and very simply, Jean-Louis Gassee, Mike Spindler, and myself met and decided that we probably shouldn't do this. In fact, what it did was that it called into question the fact that we were labeling applications at all.

We decided, as a result of giving *4th Dimension* back to ACI, which went off to be Guy Kawasaki's company Acius here in the US, that we should get out of the application business. So we wrote a white paper for John Sculley's staff, suggested that we get out of the applications business. One of the options that we recommended that should be considered was that these applications should be used as a core group of products to begin a company, a company whose primary purpose would be Macintosh development, optimizing the Macintosh platform.

The second part of this is that just about the same time PS/2 had been announced with OS/2, and though a year and a half later it's not yet proven to be the competitive threat that Apple had anticipated, at that time the graphics interface that had been described appeared to be a competitive threat, and we were very concerned that Apple would lose its differentiator. There were some applications that had been done at that time that were written for *Windows* and ported back to Macintosh, and the best advantages of Macintosh were not taken advantage of.

So in the decision we made to use these products to start a company, the primary thing was to eliminate the competition with third-party developers, but the second was to put a major company in place whose primary purpose would be Macintosh applications, to optimize Macintosh, to write to all of its advantages. And with those two challenges in place, I raised my hand and felt that that would be something I would like to do.

On April 27 of 1987, everything happened very quickly. The board approved it and John released it to the

press. We weren't known at Apple to keep secrets inside very long, so we felt that we had to get this out to the press with a very clear message. John announced it to the press; it was announced that its purpose was to optimize the Macintosh platform, it would be spun off as an independent company—18 months to two years was the time frame that had been suggested—and it was felt that over a period of time Apple would reduce its holdings to have a minority position in the company.

It took us about five , almost six months, to separate financially from Apple. The software group was really a product marketing group; most of the marketing had been done other places. Sales were done through the sales force, there was really no separate division that ran this, so that all of the operating structure had to be put in place. We hired a team, many of them from Apple, people that I'd worked with very closely: John Zeisler, who'd been director of business marketing at Apple; Donna Dubinsky, who was director of sales and had gone to International; Dan McCammon, CFO; David Kinser, vp of operations. Those are the Apple people. Bill Joos [Claris vp of US Sales] who came from a manufacturers' rep out of southern California and had done a lot of consulting for us over time, and one of the key hires, Silicon Valley guru and a technology wizard, Yogen Dalal [Claris vp of product development], who'd been one of the founders of Metaphor and before that was at Xerox PARC.

The team came together, we put the operations in place, we separated financially in September. We had our own packaging and launched the company formally in January—we're coming up to our one-year anniversary in January at Macworld.

The relationship with Apple continues to be total separation—a little bit more separated than we'd like. We'd like it to be somewhat closer, but I think Apple had a really hands-off attitude so that there would be no question from other software developers in the third-party community that Claris was not getting favored treatment.

The intent to spin off the company and make it separate is only mitigated by what is a kind of uncomfortable public market at this point. We're operating independently right now; I would think that it's realistic to say that sometime from mid-summer on we would be ready to go, given that the public market is accepting of IPOs.

So we're not far away. We've spent a year putting a lot of structure in place. We have always thought of ourselves as a worldwide company—it takes a lot of investment, and of course being a private company, or a sub of a large company, we had the time and the financial backing to be able to put structure in. So we've done that.

We've grown tremendously over the last year—obviously I can't give you any numbers, but it's sufficient to say I think it'll be a surprise when we in fact do go public. We have commanding share of a few major segments—low-end word processing and graphics in particular, and there are a few other categories that we're about to enter, and hopefully create—one product that we're releasing this week is called *SmartForm,* the *SmartForm* series, a designer package and an assistant, which allows the form to be filled out. And *Claris CAD* was the other—we feel like we're going to take what had been a high-end specialized segment and bring that down and make it very horizontal.

But there are other things that you'll see us do over a period of time. We needed to put structure in place that would allow us to grow. Now that the growth is taking place, the structure is development, the structure is operations. We have a manufacturing and distribution facitity in Dublin, about 30 people, we're localizing 44 versions in 10 languages over there.

So that's where we stand with Apple—separate, but not separate financially until an IPO. Our relationship is better than it was, without offending other people in the third-party community. And the company is growing.

How would you like to see your relationship with Apple evolve?

I feel like if we were able to maintain the relationship as we see it today, technically and marketing-wise it would be fine. I think Apple continues to grow, they have a good focus on future segments—they started out with a low-end horizontal segment, they've moved up to where they've provided a nice performance umbrella with the Mac II and its derivative the IIx, and now they'll fill in the gaps in between, and I think that's going to bode well for market share. So that's good for us.

The financial separation—I think it's just a matter of course. I don't think there's anything dramatic in that. As they reduce their holdings in Claris, I don't know that the situation would change any. I've got three Apple people on our board—Al Eisenstat, who's chairman of the board, Mike Markkula, one of the founders of Apple, and Debi Coleman, who's just recently stepped down as CFO, have been on the board, plus myself. So they've been tremendously supportive and really helped us in this startup phase, but I don't feel like there's anything that anybody would have to worry about. I think it's strictly a financial issue as to when they reduce their holdings.

You say that you were founded essentially to optimize the Macintosh, expand the Macintosh envelope, and yet at the same time you have significant Apple II product in AppleWorks and AppleWorks GS. What's the relative importance and positioning of the two product lines?

We talk about the Macintosh as being the primary reason that Claris was formed, and I get a lot of criticism from people in the Apple II community, but when we acquired *AppleWorks GS* and did the public announcement, I said we were committed to the Apple II, and I felt like we would demonstrate that by performing.

If you think about what we want to do, we are very much market-driven. Markets have been important to us. John Zeisler's influence at Apple was that he took the markets and segmented them very horizontally, and determined what segments Apple's products could provide distinct advantage in attacking. That was demonstrated—desktop publishing was a real good example. Desktop productivity, communications to host—there are things like that that you are able to see—what advantage does that thing provide the naive user?

Now for us K-12 is a significant segment. *AppleWorks* is the leading application there. As the GS becomes much more important in that mix, we have the leading product on that as well. As the Macintosh then makes its way into K-12, if we can do something similar...

So what *AppleWorks* represents for us right now is a very strong component of our education strategy, and the product itself is critically important to that. Other products will be important to that as well, so if Apple evolves from the Apple II to the Macintosh in K-12, we will be prepared for that. If they continue to iterate the Apple II to insure that it is appropriate for K-12, like they've just done with their networking component in their strategy, we'll be there with the leading product. So we look it not as *AppleWorks* the product but as *AppleWorks* the component of our K-12 education strategy.

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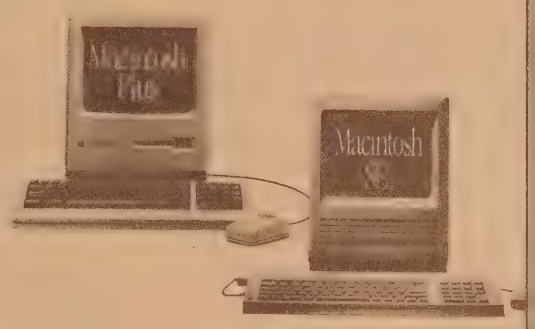

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It surprises me a little that the primary market for AppleWorks would be K-12.

It's not even a question. K-12, as well as being 50% of our sales of the Apple II, is a pull. . I know that I offend some of the people that are using Apple IIs for small business and the home office, but if you take a look at the research we have, people—I mean, I use my Apple II at home for my son, because that's what he uses at school. And so many people will have those Apple IIs at home—the home-education drag-along is enormous. I'd say that's 85% of the market. So K-12 and the pull side of what K-12 brings along is most of the market.

Apple is stressing connectivity a good deal. How does that fit in with what you want to do?

Connectivity is kind of a vague term. There are a lot of ways we can look at connectivity. Obviously some of the things that they've done have been, I think, very strategic and very important. I think they've reduced the need for putting database engines on their own boards or reliance on one database engine versus another by the acquisition of Network Innovations with CL1. We have a database in *FileMaker*—the addition of CL1 to *FileMaker* would certainly allow us to have access to remote data. So the fact that Apple not only will write that for the Macintosh but will make it available, probably on a for-free basis, allows us, a leading database vendor, to have access to remote data. So strategically that's an important part of their connectivity strategy.

Strategically the more important thing is that we believe the workgroup is the catalyst for the next wave of acceptance of microcomputers. You're in Claris's building right now—if you walk around, of course everybody has a Macintosh on their desk. Not only that, you heard that little ring there that alerted me to the fact that I have an electronic mail message. Now if I want to communicate with anybody in this building, I can just walk over there and sit down and type them out a message, click on their name, and then—see you later, it's gone. So in this office right now the workgroup just for communicatons is important.

Now, in your office, would you buy a Macintosh just to be on the sending or receiving end of electronic mail? I think not. On the other hand, thinking of electronic mail as the hub, or as the core of the underlying architecture, the ability to send and receive information, you can envision workgroups. You can envision any of us here working together. In many cases it could be collaborative work, it could be just shared information. But we see the workgroup as being ideas, processes, and people—those are the three components of workgroup productivity, and we think we have applications that can enhance all of those areas. Can and will.

Connectivity, the ability to have high-speed data transfer between and among machines, that ability to do those kinds of connections, is really important to insure that the workgroup becomes something other than a buzzword, that it can be, in fact, accomplished. So we're relying on Apple to continue to improve those links, because not everything is going to be like it is at Claris, a Macintosh environment. A heterogeneous environment is more what occurs out here in the other part of the world. The unenlightened.

Make a note that I smiled when I said that. (laughs)

But I think that the multivendor environment is something that is crucial to us and Apple, and that their ability to provide logical high-speed connections will allow informations to be passed between and among computers and shared. The truly distributed architecture is what they need to provide, and I believe they're on the way to doing that, and I think our applications can help more and more people, bringing the naive users into the office and allowing them all to participate.

Because if I could make someone do more than just send and receive electronic mail, if I could give them two or three more things that they could be productive with, the computer will become as ubiquitous as the telephone. And we believe that it has to be, it *should* be the communications device, but people need to do more things with it. Like electronic forms—if you can call up an electronic form, for instance your expense account, fill it out, it'll do all the error checking for you and send it on to [the bookkeeper], and she can send it on to the CFO for approval, and then it can be archived in our VAX—it's a wonderful way to improve office productivity. That's one process. Calendaring is another process.

But if Dan and I could sit and worry about a presentation that we're both going to make at Macworld, and we've both decided to work on a document that we could share and it becomes truly a shared document, the collaborative work that's done there is conceivably idea generation. We can go back and see: what did we say the last time? Or, let me see if I can't get the text of John Sculley's speech, so I can put that it. So you review it, revise it, lay it out, review it, revise it, take images from other environments, store and retrieve, so that the next time you do it it's kind of an idea generation.

So those are the things of whch workgroups are born. And that's the reason people would want to get computers. To this day—I mean, you know, we're still around 25% penetration. So who are those other people who aren't using them, and why?

So that's what connectivity means for Apple, and that's what workgroup means for us. They provide the plumbing, and we'll build things on top.

One of the approaches Apple's taking to the workgroup idea is A/UX. Do you plan to address A/UX in any way you're not doing now?

Absolutely. We're totally committed to supporting Apple and A/UX. In fact, one of the discussions we had over there yesterday with the Apple people was how can they help us in bringing our applications. If they are truly 32-bit applications, which ours are, the testing procedure is really not a problem. They are continually enhancing A/UX, which is part of the problem right now, and when we get a stable 1.1, then we can begin to test for it. But I would say that by early spring virtually all of our applications will work under A/UX.

Graphics as well?

Oh, absolutely. See, if we write to the toolbox, we're in great shape. Fo instance, I can tell you right now that we're in the process of testing *MacDraw II*, *MacProject II*, *SmartForms*, *Claris CAD*, *MacWrite*, and on and on. *MacPaint* will be one that we will not—it's not necessary. All of the other applications are well-written and are able to be brought to A/UX.

How strategically important A/UX is is a different question. We believe that it's a critical component of our strategy in two key markets: the university market, higher ed market is a critical one for us, we're addressing it very aggressively; and the technical market, with *Claris CAD* and *MacProject*—most of what an engineer would do in a technical market environment is horizontal stuff, and if working under UNIX is something they want to do—I feel like we get UNIX free, and if they want to do *MacWrite* and *MacDraw* under A/UX, well, we got it. So we feel that it's strategically important for two of our major markets.

Do you see yourselves moving onto other hardware platforms? Sun? PS/2?

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The thing is, if you take a look at what we're doing right now—and I think you've probably watched us over a year—what we do, rather than adding depth, which means going to other platforms with the right current applications—breadth is more important. We're getting into other segments.

If you take a company that's like ours, roughly 285-290 people, and you say you want to grow, focus is really important with you. Couple that with the fact that in order to grow you need to be in a lot of segments. It's very difficult.

You could say that it would be easier to work on the same application over many platforms, or you could say that it would be better to work on many applications. We've chosen the second because we really feel that the Mac user is quite different attitudinally—we learned that from our Apple days—and that we have a better opportunity by understanding the market, have our sales force really focused in on certain dealers, certain customers, who are really accepting of Macintoshes, and we think that the best business opportunity is to focus on Macintosh. There's some religion there—I would be less than honest if I told you that it was a total business decision. I think there's emotion in that.

It's pretty hard to divorce that from the Macintosh.

Yeah, I mean, we've been at this for a long time. There's a whole bunch of us that have been there since the beginning of Macintosh. There are some here that have been here since the beginning of the Apple II. So you know we're very, very devoted to the ability of Macintosh to democratize computing, and we feel that that's the platform we want to work on. Now we will not hurt ourselves businesswise, but we think that the business proposition matches with the emotional decision that we're making, and we feel very strongly that Apple's future direction will really support us.

To what extent are you developing software in-house at this point, and to what extent are you looking for outside acquisitions?

I think the outside things right now would be serendipity. What we've done is essentially—see, there are three phases of Claris's life. One, we had to look like a real software company, take the products that we were given and update them and make them appropriate for today's market. We did that. Two is that we had to begin to put a development organization in place right away and begin to do development, which was going to take anywhere from two years to 2 1/2 years—we knew that. Just hiring people, putting them into place, defining projects and getting them done—I don't think that anybody would tell you any different from that.

So we did that, but in the meantime we had to fuel that growth while internal development was taking place, so we bought a couple things. We bought *FileMaker* from Nashoba—we bought the company, actually. We bought *AppleWorks GS* from StyleWare, and those two products gave us—one was an entrance to a new category, and the other was the extension of something we really felt that we had a strong position in.

Along with that we bought some technology, some things that could accelerate our own internal development. Some of those things will become evident to you in the next couple of months, some of the payoffs of that. The *FileMaker* acquisition is quite clear, the StyleWare acquisition is quite clear, some of the technology acquisitions will become evident to you in time. Most everything that we have right now is in the internally developed area. We're not afraid of outside development, we're not afraid of any other acquisitions, but there are no targeted categories that we feel like we must be in.

So I could show you some charts, but I think that sales of internally developed versus externally developed products will change markedly in 1989. So some of the products that we have from Apple were externally developed products, but almost everything we have will be brought inside.

We're not religious about developing it inside as much as it does give us control over iterations and improvements in the product, and we think overall we'll be able to help the customer. But great ideas occur everywhere, and the message that we gave the small developers is: If you have something that you feel is exciting, we'll sure look at it. We look at stuff every day. I don't have any doubt that in this next year we'll probably acquire something. Maybe more than something, maybe somethings that we really feel would be a key technology that would help us with our own development, or maybe a product that's most of the way done, if we felt like we could Claris-ize it and ensure that it could expose a new market to us. We're into market makers, if there are such things.

What does Claris-ize mean?

Well, we think that the consistency of what we do is pretty important. The feel of our products is pretty important. If you take the Claris products which you'll see today and you'll see in the future, there's an interface consistency, not simply what the Macintosh provides in terms of toolbox. *Claris CAD* is a good example. We've taken a very complex metaphor and married it with *MacDraw II*, and put the dimensioning tools in place, and actually put another palette of menus, modifiers that will really make the thing easier to use. So that if you look at the interface for a couple minutes and someone says "Let me show you how this last thing works," and you go "Aha!"—if you take a look at the all of the things we're doing—and some of them of course I can't tell you about—you're going to see a consistency. If you use one Claris application you should be able to use them all. People will say that that's the case with all Macintosh products, and you know full well that that's not the case.

Over a period of time what we've got to do is make those products be more valuable to one another. Be able to open a *MacWrite* window in *MacDraw*, or vice versa. So what we've got to do is ensure that our products work very, very well together, so when I say Claris-ize it, I would say it's look and feel and the ability to work well with our own packages.

You don't at this time perceive any glaringly obvious arena that you ought to be in and aren't?

No. People have asked us about spreadsheets, and we think that that category is very, very well served. Microsoft has a phenomenally good product.It doesn't make much sense to try to compete with them in an arena in which they are very, very strong. There's a lot of places that we could go, and that's not one that we feel we could add value in.

Some of the other areas that people have questioned us about—presentation. I think presentations are more done by average people like you and I who have to do something very

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quick for a presentation to someone. And I'm not sure that people would buy specialized—I think that they *will* buy a specialized presentation product, but I'm not sure how many. (laughs)

Those are the questions we get—are you going to go into presentations, spreadsheets, multimedia? Those are the ones we get, and the answer to those is, at this point, no. It isn't something that we're aggressively pursuing. We think horizontal presentations are very important. I think the accessibility is the issue—should you go out and buy a $3- or $495 product?

After all, the success of PageMaker hasn't put The Print Shop out of business.

Right.

How have Apple's price increases affected you?

I think Apple's price increases on the Macintosh side didn't affect us at all. Apple had a strategic decision that they had to make, whether to let their gross profit margins and thus their profitability erode, or to raise prices to match rising costs. I think that they held off as long as they could; I think they lined up and stood up and took the public relations hit that price increases caused them. But I think that with that there's no reduction in R&D spending, which is the critical thing. No reduction in marketing, which is important so that Macintosh's acceptance continues to unfold.

On the other hand, I think the Apple II price increases hurt us. I think that we saw a resistance on the higher end of the II line, the GS, to that price, particularly when they ship the product with 512 K and you need at least 1.25 megs to run our IIGS product, as well as almost every GS product. So I think you combine cost of memory and the increases in that unit, as well as the RGB monitor—I thnk it hurt us on the GS side.

I think we saw a lot of resistance in the schools. We expected with the installed base of Apple IIGSes that's occurred over the last couple of years—I think Apple's done a phenomenal job of getting the customers to move from the Apple IIe to the Apple IIGS. They didn't buy *AppleWorks GS* because of the cost of memory. And of course they didn't buy a lot more new units. So where are the sales going? Do I see resistance? Is there a price point at which the customer won't even come into the microcomputer market? Has it been a discretionary item at Christmas?

Look—I mean, you've watched Apple's sales. There's always a peak every October, November, December. It's always the high quarter, so Christmas does exist even at Apple. And as less-seasonal as Apple's sales are becoming, there still is a seasonal peak based on the Apple II at Christmas. I wonder if they're going to see—we had a great selling of *AppleWorks GS*, but just the information I get from the dealers that I talk to, there's been some resistance because of memory and price. I think people could've gone out there and bought it and even paid a gouged price for memory if the price had stayed the same. But you take those two factors, the whole-unit increase plus the required memory—that just put it out of reach of a lot of people.

How competitive do you feel it's necessary to be in your own software pricing?

Pricing is an art (laughs) not a science. I lie in bed at night worrying about pricing. We just made a decision on pricing of a product that we'll announce here in January, and I woke up this morning with it on my mind, in the wee hours of the morning thinking about it.

So I think what you do in pricing is you've got many dimensions. You try to lay your product out competitively versus somebody, and try to give yourself a price-performance rating relative to the competition. Then you try to also think about market share—is that important or is that not? Would you rather have a smaller market share and have a higher revenue per system? Some people make that decision. Or is it price-sensitive enough that if you lowered the price you could gain significant amounts of market share, which could gain you critical mass either in the marketplace or in various customer segments, and allow it to perpetuate itself there? I think those are the two factors that we try to examine. And of course the third thing is your company's profitability overall. But it's not an easy thing.

We find pricing very difficult. Pricing, ultimately, I do. I take the recomendations of John Zeisler—we had an off-site last week, we rode up and back together, and we made a decision on price, and we sat on it overnight and talked about it with some other people, and we sat on it overnight, and we talked about an upgrade price, and talked about it overnight, and talked about the upgrade price again—that's the way you do it. You see—it has to pass your test of reasonableness at some point. And the financial people, though obviously interested in the decision, as long as you're within a window of

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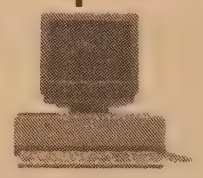

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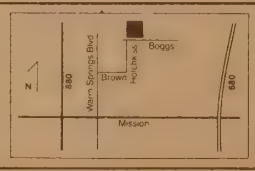

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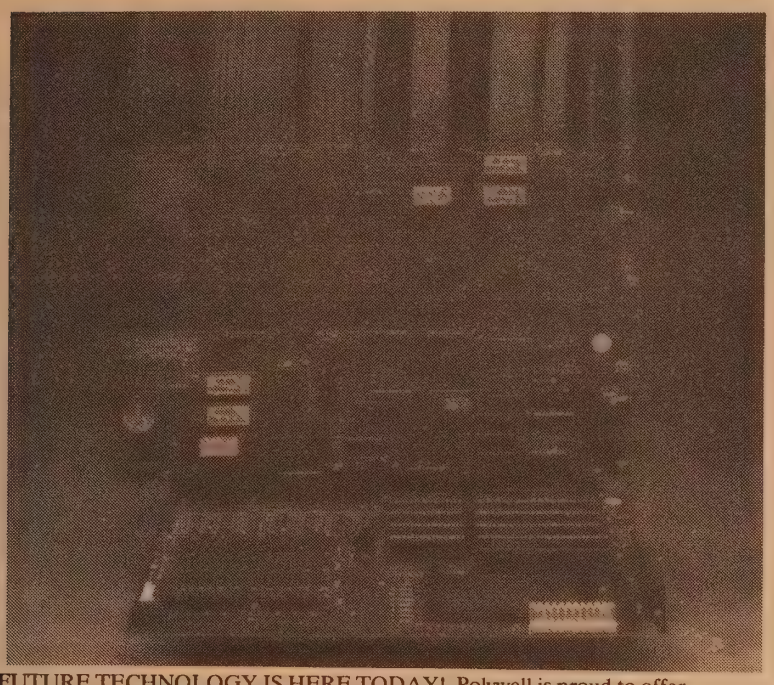

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profitability targets, I think that's fine. The first two issues are critical—us versus the competition, and our thrust for market share. We think market share is important—we don't want to be a niche player in any category.

You have a fairly wide range in your products from relatively low-end things like MacWrite and MacPaint to relatively high-end and relatively sophisticated packages like Claris CAD. Does this give you problems positioning yourselves in the market?

Well, if you look at it, I think what you see isn't always what you get. I think what we looked like last January and what we look like today are very different. A couple consistent things are these—all of the applications are capable of being brought down from what had been perceived as high-end metaphors and brought down to average users. If you look at the product end overall and you just think about the highest-end segment, let's call it the most complex and technical segment that we would be dealing with, it would probably be the scientific/engineering community. And you can take Apple statistics and say anywhere from 50 to 70% of what they do during the course of a day would be horizontal productivity—word processing, database management, modest graphics. You'll find that if you look at the portfolio we've got, except for maybe *MacPaint*, which I would agree with you is probably at the other end of the spectrum overall, there's not any one of those products that's not appropriate from a horizontal productivity standpoint, regardless of how junior or how senior they are in the organization.

"If you use one Claris application you should be able to use them all. People will say that that's the case with all Macintosh products, and you know full well that that's not the case."

Now *MacProject* and *Claris CAD* are both targeted at a higher end segment, but again both of them are accessible enough that it would be the horizontal part of the higher-end segment. Our product *Claris CAD* is not going to do finite element analysis or solids modeling, and yet it is a true CAD program that conceptual design people at major corporations could do that and send that on to their specialist, who could put that through the file translators, take that into another system and take it to its finest control.

The line will continue to evolve, but it will still take on the characteristics of horizontal applicability. We will drive for accessibility. We will take metaphors that have been previously thought of as inaccessible and make them accessible. Our role in word processing is not to go higher and higher and higher and make it more complex. What we would like to do is see if we can't give, in another generation of word processor, more of the features that users want without losing that accessibility. So, you know, the mid range of the word processing market is where we think our stake is, and we'll continue to protect that very well.

The line overall—it would be inappropriate for me to comment about where it's going. Its sufficient to say that there are some things that may look a little bit out—you could take *Claris CAD* out that way and *MacPaint* down that way and say they may be a little far out, but this one will come in, and once you see it and use it you'll know why this thing is going to come in to the horizontal part of it. And down here, I don't think there's any question that this thing [*MacPaint*] is not state-of-the-art. I think its price/value is phenomenal for the monochrome machine, and it's still selling very well, particularly in our international market.

You don't want to talk about the products you're going to be announcing at Macworld?

No, we're not announcing products at Macworld. What we're going to do with our products is kind of announce them...

We've done two things. We felt that last year in January it was important that we use Macworld as a platform to announce our company, and with that we announced the upgrades on the products that we were taking on.

In August we made a mistake. We made a marketing mistake, and the marketing mistake was that we announced products that weren't ready. We felt that to try to make a bang at Macworld was what we should do, and we announced *Claris CAD*. In the meantime, as we were getting some feedback on it, there were some things we felt that we had to fix as a result of that feedback, and the product is just being released now. We thought at that time we could get it shipped around November; I'd say

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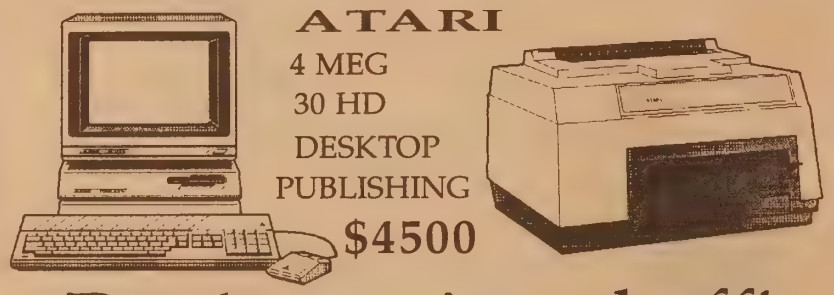

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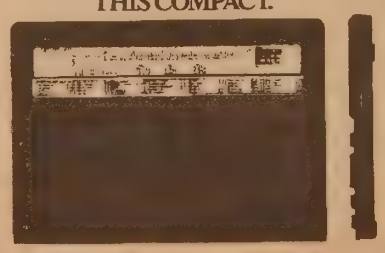

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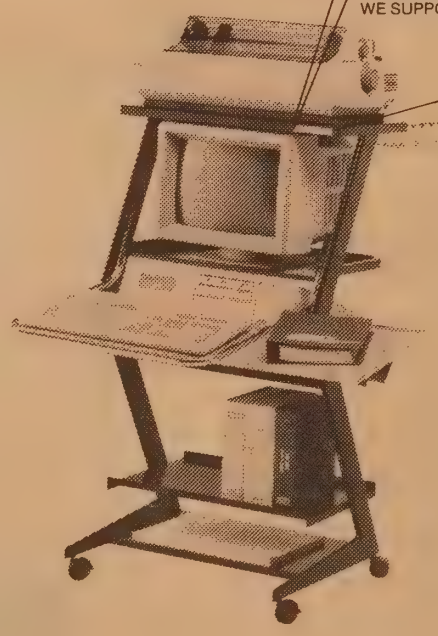

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we missed by maybe a month and a half.

But we're not going to announce products now until we're ready to ship them. I think we caught ourselves with that mistake and we won't make it again. So if we have a few things that we can announce at Macworld, we will, and if we don't, we won't. The more we go on, the more chances there are that we will be upgrading or replacing current products to make them better. We've done a good job of keeping ourselves under wraps—we have done some sneaks of some things that we're going to announce, and if you're a Mac advocate you know that one has been leaked into the press.

The relatively high-end word processor. . .

The relatively no-comment word processor. So you can just assume what I said before, that it won't be a high-end word processor. You can assume that, just based on the strategy that you heard from me a few minutes ago. So we have no problems—we're not as leaky as other people have been, but unfortunately this got out just after we started our press briefing.

Maybe it's just my perception, but there seems to be a huge increase in the amount of vaporware—leaked or announced—lately. What are your feelings on this?

Knowing how we think, I think that what happens is you try to make an impact, and there are Macintosh events where you feel that you can gain some publicity as a result of announcing things. So you do it. And I think you do it in all—we announced the *SmartForm* series last January, with the idea that between March and May we could ship that product. We felt that it was important that we let people know, because the Clearview acquisition was announced in the paper, people knew what the product was, so we didn't think that we were giving away anything, but we made a big deal out of it at Macworld. In the meantime, again, we put it out and got customer feedback that we needed to fix some things. So with that in mind we had to go back to the drawing board. This was at the alpha level.

I think the *SmartForm* series announcement was the right decision because people knew about it already, and that *Claris CAD* was the wrong decision by us. I'm not afraid to admit that. So what we're going to do is be a lot more careful.

Do I criticize people that do it? Having done it, I know why they do it. I think the testing process right now is taking much, much longer than it ever did before, and give a lot of these people in the Mac community a lot of credit—I think that people are taking a lot longer time to test, and I think their products are probably done. And they're testing them, revising them, testing them, fixing them, testing them—and I think the test process is interminable. It just goes on forever; with the state of the peripherals today, you have to test on so many things—you have three printers from Apple and multi-multi monitors and scanners and on and on.

In our second quarter, which starts in January, one of our key objectives is to see if we can't raise the levels of customer satisfaction. We need to hire more technical support people and more people in testing so we can really be assured that we're banging on the products, to make sure they go out flawless.

But taking an example out of the Mac world, for instance, they had all the fireworks and hoopla for OS/2 close to two years ago and it's not here yet in any form that's useful to anybody. Is that too long a vapor cycle? Do things like that hurt the industry?

It's hard to say. Did it pique everybody's curiosity to the point where people thought there was going to be a graphics interface for the PS/2 platform? The answer is—yeah. Did it delay purchases? Did it hurt Macintosh? I don't know. I think people needed to feel comforatble that IBM on their new line was going to approach the accessibility of the Macintosh with a graphical interface, and with that they teamed up with Microsoft again, and announced a joint development to allow that to happen.

Is that good, bad, or indifferent? I think if you're in the IBM world, and they would always give strategic briefings to customers about future directions, I think that's probably kind of standard fare, in that their customers who are busy right now buying 286es know that in the future there will be something else there, and people who are IBM customers are in it for the long term.

So (laughs) I *guess* that's the strategy. I mean, I don't really know. How do Icriticize? It's not something that I really dwell on. I don't get as burned about vaporware as others. I just think that the vaporware thing hurts them.

It's certainly hurt Lotus.

But then, would Lotus be more criticized for people thinking that they weren't updating their product? Or announcing it and not delivering it? I don't think that they could win on that one. □

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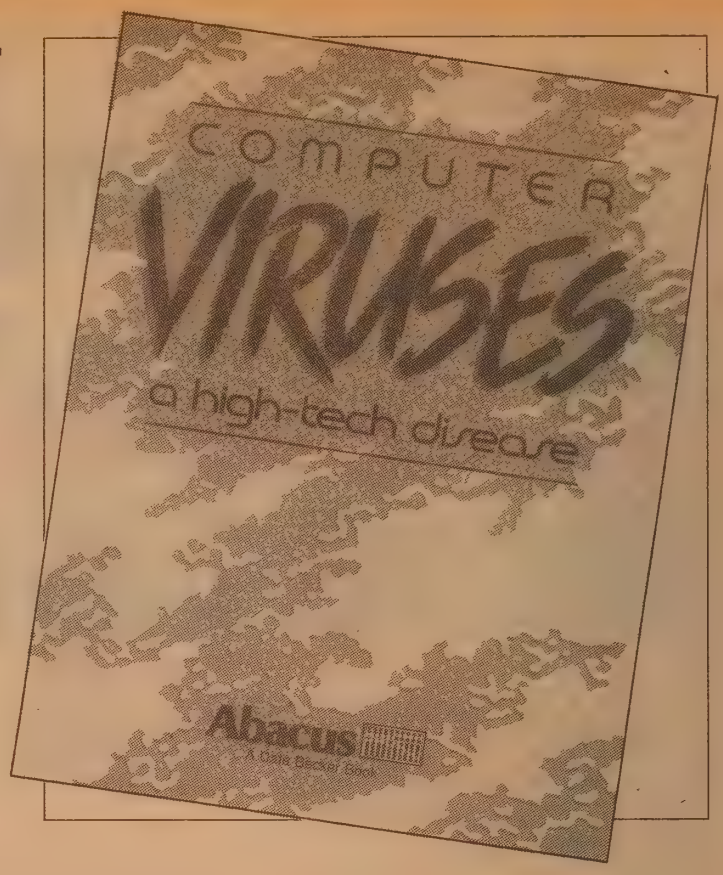
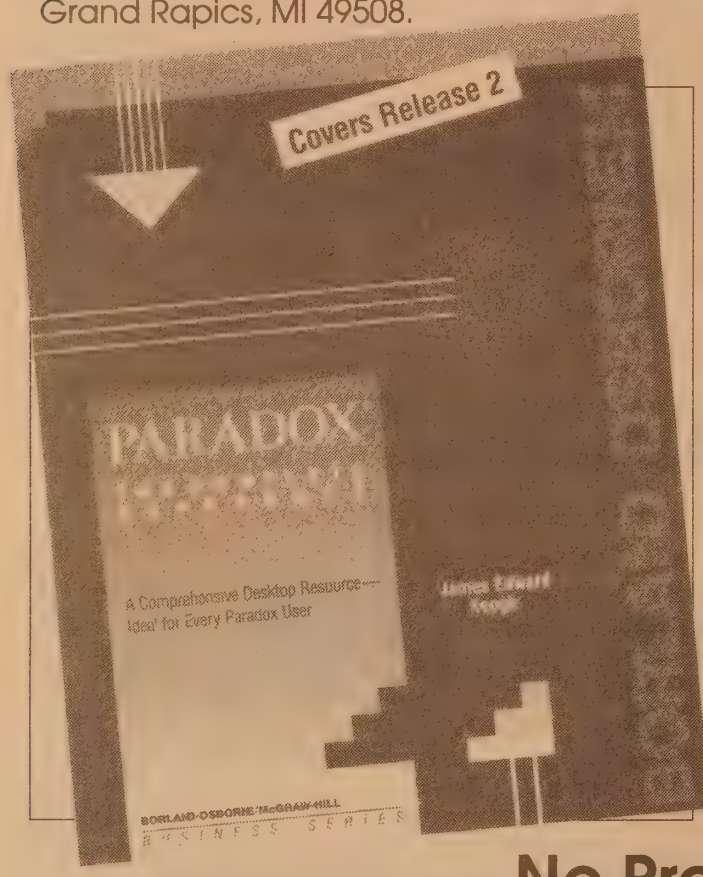


Computer Viruses: A High-Tech Disease, is about a topic much in the news and on the minds of computer users everywhere. Whether you own a PC or work with a mini or mainframe, you owe it to yourself to learn about viruses. **Computer Viruses** describes what a virus is, how it works and what can be done to protect your system against destruction. The book's author, Ralf Burger, is a system engineer who has spent many years experimenting with virus programs and locating them in computer systems. Abacus, 5370 52nd St. SE, Grand Rapics, MI 49508.



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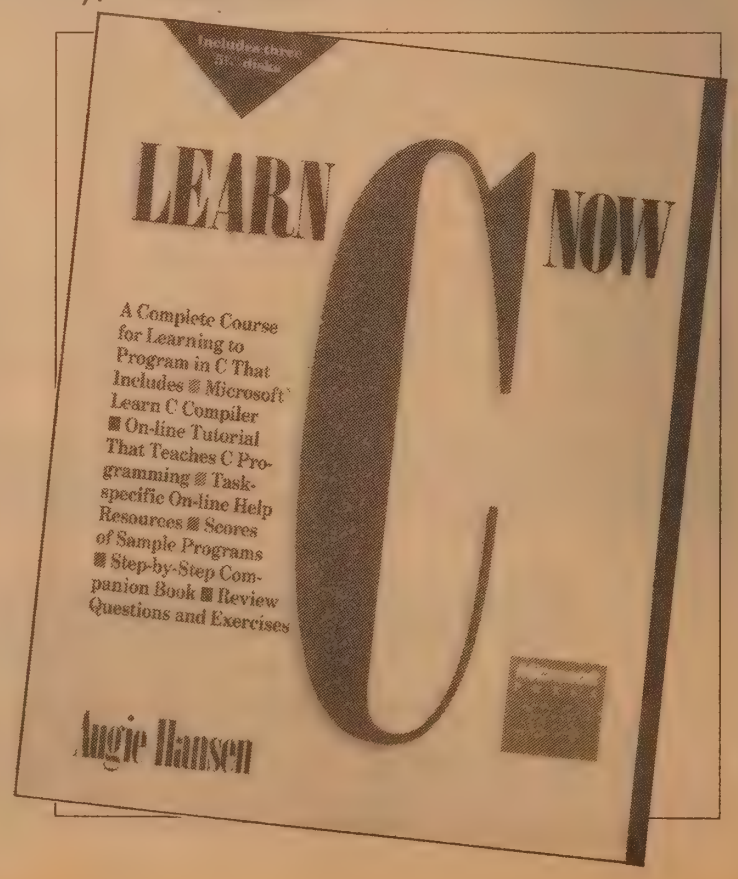
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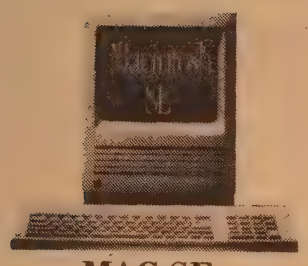

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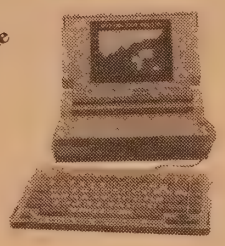

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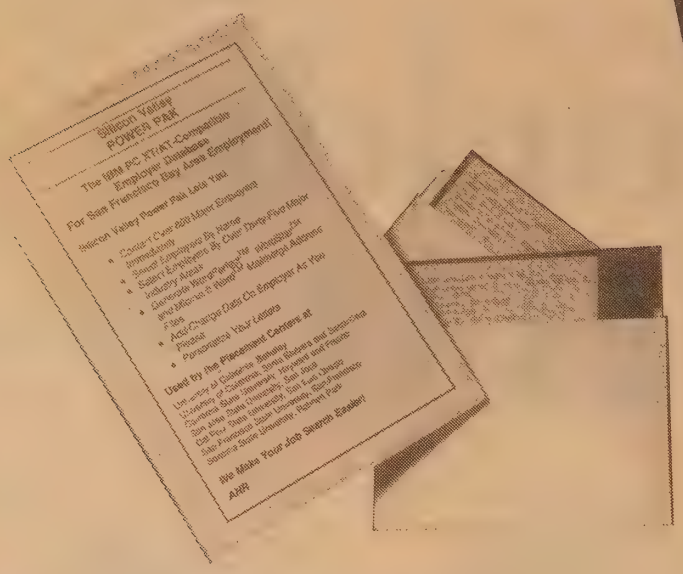

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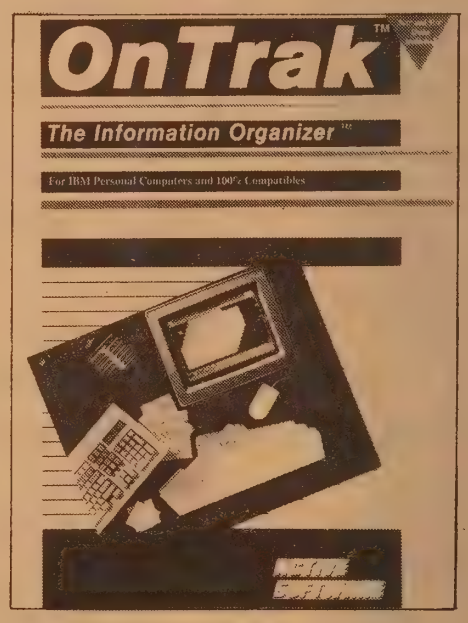

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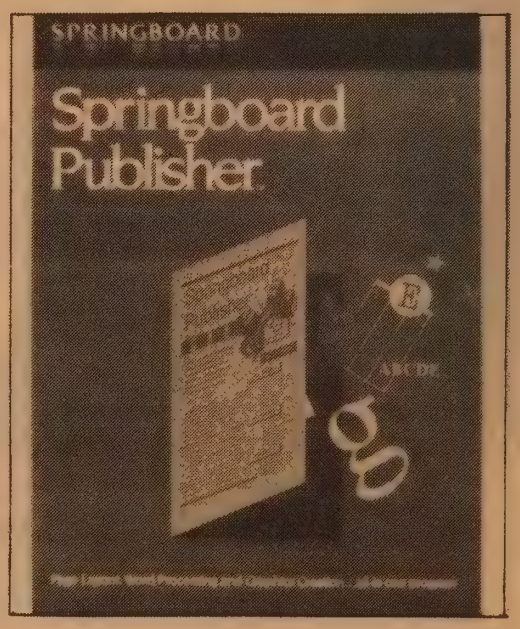

Springboard Jumps Into PC Desktop Publishing

Springboard Software has introduced a PC version of *Springboard Publisher*, a three-in-one application with word processing, graphics, and layout capabilities. Versions of the application currently exist for the Macintosh and Apple II. Designed to work under *Windows*, *Springboard* is meant for people who want advanced DTP capabilities without the full-blown complexity and long learning curve of more sophisticated applications. Text can be arranged in up to nine individually sized columns, and mixed column formats are possible on the same page. Text flows automatically from column to column and page to page, and automatically wraps around graphics and inset text frames. ($199.95) Springboard Software, Inc., 7808 Creekridge Circle, Minneapolis, MN 55435. (612)944-3915.

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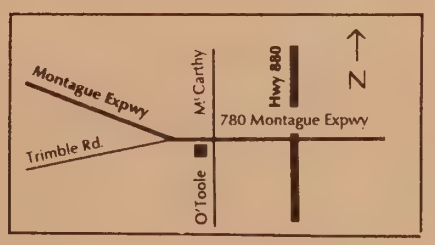

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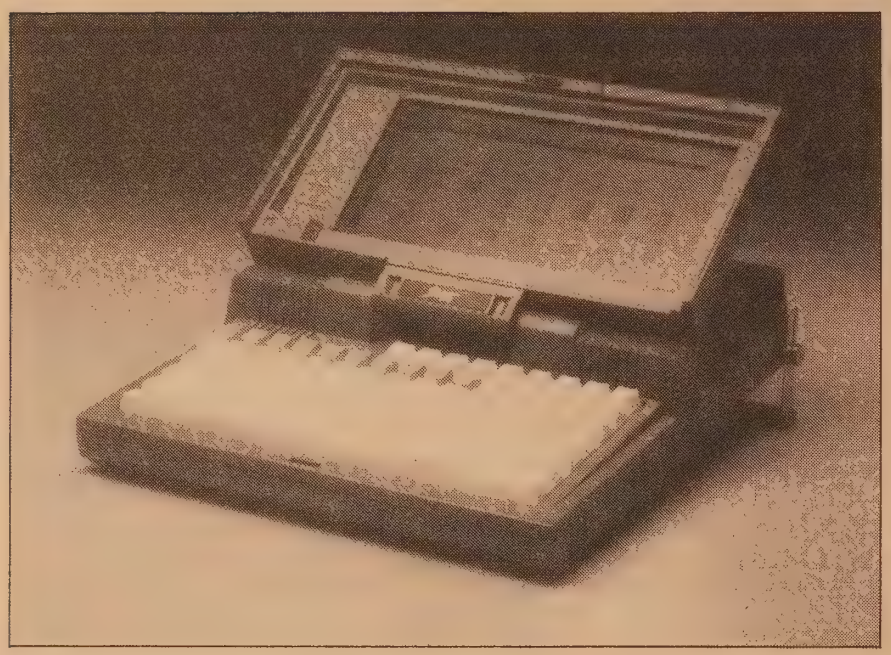
Datavue's Snap 1+1

The Modular Approach To Laptops

By Ed Kahn



Datavue has beaten the competition to the punch with this design, as the wave of the future seems to be extremely lightweight machines with lots of internal memory and no drives.

When the first laptops appeared on the market years ago, I thought they worked best as modules of desktop machines. Now Datavue has introduced the first laptop computer that is itself made up of modules. Weighing in at 10 pounds, the Snap 1+1 consists of two parts that can work together or be separated. A five-pound front module consists of a keyboard, 640,K memory, a RAM disk, ports, and a screen. This can be used in the field much like the earliest diskless laptops. The remaining portion of the computer, holding the disk drives and an IBM compatible half-card slot, can be left behind.

The modular makeup of the computer is carried still further. Three displays are available: a standard super-twisted LCD, a backlit super-twisted LCD, and an amber gaslight super-twisted LCD. These displays, each tailored for particular applications, are easily interchanged by the end user by simply unplugging one and replacing it with another. Likewise, other options are also available in modular units that can be installed by the user.

The most unusual feature of the back module is the presence of a half-card slot which allows the user to use any of the options available on the cards. Datavue offers a good selection, but any card that fits will work. For users who want to use this as their only computer but require EGA graphics, an EGA graphics adapter card can be installed into the slot. When the computer is attached to an EGA monitor it will provide a high resolution color display. Similarly, a VGA card can be installed. This is the only laptop computer I know of in this price range that will show high resolution graphics on an external monitor without forcing you to buy an expensive expansion box. Monitors can be left in permanent locations and the Snap 1+1 can be easily moved back and forth. When in the field or on the road, the LCD display is more than adequate.

The expansion possibilities of this computer are not limited to the slot. The front portion of the computer has room for an internal modem ($325) which is easily installed by the user. This 1200 baud package is pretty standard. If you are using either the four-pound module or the full unit, the modem will allow you to communicate with other computers. In addition, Datavue has two fax units available for the Snap 1+1. If you have not used the expansion slot for some other purpose, it is possible to install a half-card fax unit ($395) in order to send and receive fax transmissions through your computer. There are a number of these cards on the market these days, but no other portable computer in this class has the required slot. In addition, the company has also released an external fax unit ($495) which can be used with this or any other computer that has an available serial port. Both of these portable fax machines are class III compatible, which means they meet the standards of the majority of newer fax units on the market. Thus, a user can easily install an internal modem as well as an internal fax card and have a laptop with unequaled capabilities.

Options

Now that we have described the flashy features of this unit, let us take a closer look at the internals and options of the Datavue Snap 1+1. The basic computer, consisting of both modules, comes in configurations containing two 3.5" disk drives (list price $2295) or one 3.5" drive and a 20 Mb internal hard disk (list price $3495). The basic unit in either configuration includes 640 K RAM, an AC adapter, an operating system, and an operations manual. The backlit screen costs an extra hundred bucks, and the gaslight screen costs an extra $200. The computer is powered by an NEC V20 processor which can run at either 4.77 or 9.54 MHz.

The keyboard is a standard 84 keys. The layout is a combination of old and new styles. The control key is to the left of the "A," but 10 function keys are strung across the top of the keyboard above the standard number keys. The upper right-hand corner of the keyboard contains a numeric keypad that can serve either for numbers or as cursor control keys. There are both NumLock and CapsLock keys, but neither has an indicator to show whether it is on or off. I like the action of the keyboard and am glad the designers have included tactile marks to indicate the "f" and "j" keys.

Battery Operation—Yes And No

While the Snap 1+1 is advertised as a battery operated portable, a number of caveats must be issued to prevent a reader from purchasing this unit only to find that it does not meet his or her needs. If you buy the model with the hard disk, the AC adapter must be used at all times that the back portion of the computer, containing the disk drives, is used. If you use the front portion as a stand-alone portable, you may not use the gaslight screen without an AC adapter. So, while the requirements of portability are met with room to spare, if your primary need is really battery operation you are limited to specific configurations.

The battery setup on this machine is quite unusual, but makes perfect sense in view of the modular design of the product. A rechargeable nicad battery is available as an option ($299.00). It is a separate module which attaches to the rear of either the front or back module of the computer

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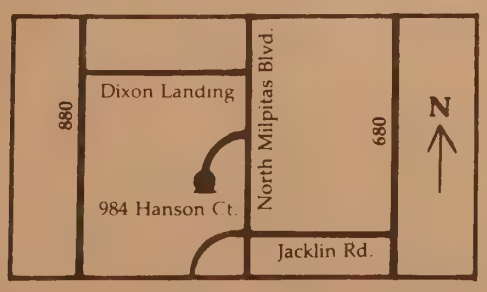

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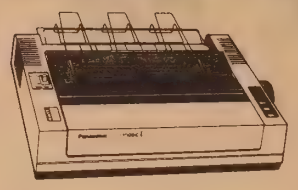

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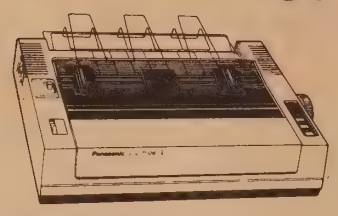

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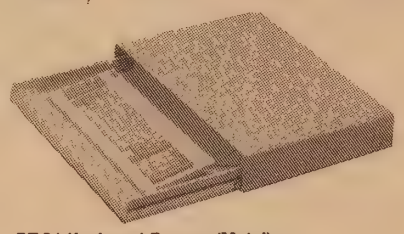

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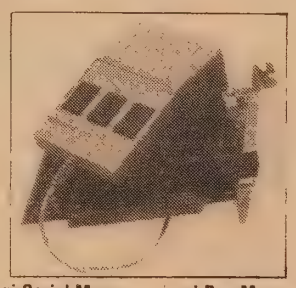

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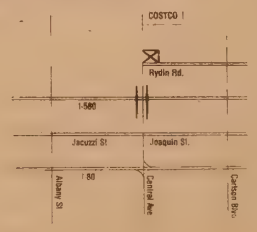

REVIEWS

for those occasions when you need portable battery operation. The unit I was sent for evaluation has both a hard disk and a gaslight screen, which made the nicad unit unnecessary under almost any circumstances.

A large battery with an auto adapter is sold as an accessory for $299. The adaptor allows you to power the computer from either an automobile battery (through its cigarette lighter) or from this special battery, which has its own female auto adapter receptacle. This is a powerful but relatively large battery that can be recharged from AC. This battery will power any part of the Snap 1+1, and comes with its own carrying case. But be warned that this is not the kind of battery that will fit into your pocket. It is heavy, but provides hours of service with any configuration you have.

A word is in order about how the front module of the Snap 1+1 works. When you disengage the front from the back unit, you are left with a computer without disk drives, but with all of the ports and 640 K RAM. A slot in the front unit will accommodate either of two RAM cards: 512 K or 1 Mb. Both of these memory cards have internal batteries that are designed to hold the contents so they can be used as RAM disks. The idea is that you load your software into the RAM disk and transfer your data to either a floppy disk or the hard disk when you return to the base unit or when you connect to another computer via modem. Although even the larger RAM card does not offer the kind of memory you are used to with a hard disk, it is enough to allow you to carry a super lightweight unit into the field.

The Wave Of The Future

Datavue has beaten the competition to the punch with this design, as the wave of the future seems to be extremely lightweight machines with lots of internal memory and no drives. NEC has received a lot of publicity about its recently announced four-pound laptop that does just this. These new computers, however, are designed to be used exclusively in connection with a desktop machine and do not offer the versatility of the Datavue. On the other hand, the newer laptops are truly battery operated portables.

I have put this unit through its paces for over a month and in general am pleased with its performance. While there are faster computers on the market, the setup of the Snap 1+1 offers everything you need in this class computer. I found that certain software glitches happen from time to time, but these inconsistencies were annoyances rather than downright problems. Occasionally, for instance, on power-up the computer would stop in the middle of the initialization. Either the tap of a key or a reset would solve the problem. One feature that I have seen on no other laptop, by the way, is a reset button on the side of the unit.

A number of internal software features are especially helpful for either the beginning or advanced user. A setup menu that displays on power-up provides an opportunity for resetting any of the parameters. A world-time screen shows the time in major cities around the globe. This screen is also selected to reset the internal clock provided with the computer. It is a good deal easier than using DOS commands.

The major complaint I have with the unit is the operations manual. While most of the necessary information is provided, I found it difficult to find some of the facts I needed. For instance, there is an "Fn" key for which I can find no reference in the manual nor use in the operation of the computer. Other laptops use such a key, but it does not seem to be necessary with this unit. I commend the designers for putting together a laptop keyboard that does not require the use of an "Fn" key, but do not know why it is there or why it is not mentioned in the operations manual. Similarly, although I was able to configure the computer to work perfectly, it was not the result of the skimpy descriptions provided in the manual. I was never able to really set the front unit up to work from the RAM disk. I know that the unit performs flawlessly, but it was not as easily configured for this use as the manual suggests. I would have preferred a more detailed step-by-step guide. Despite these slight annoyances, however, the Snap 1+1 offers a significant alternative to all the other "me too" laptops on the market. ■

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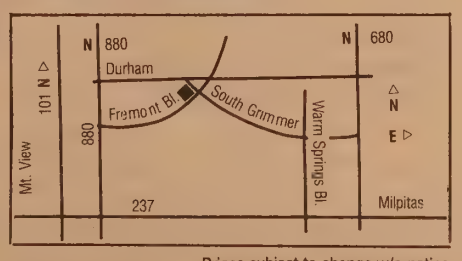

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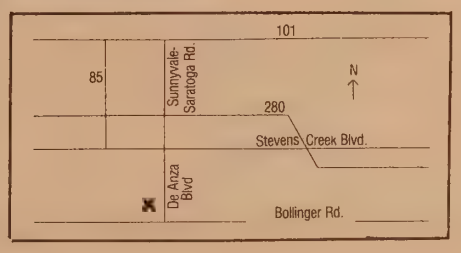

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Allways: Excel's Printing Capabilities With 1-2-3

By Woody Liswood

I was teaching a beginning computer course last fall. One day I remarked that from the standpoint of most users, the real advantage of *Excel* over *Lotus 1-2-3* was the ability to have presentation quality printouts of the work. The next day one of the students handed me an article announcing that a program called *Allways* would be given free of charge to all future purchasers of *1-2-3* and would provide the same graphic printout capability as *Excel*'s.

The article was right. If you already own *Lotus* 2.0 and a laser printer, I suggest that you run, not walk, to the nearest store and demand a copy of *Allways*—it's that good. If you own one of the popular 9- or 24-pin dot matrix printers, or even a color printer, *Allways* will also work for you.

The same table as printed by 1-2-3 (l) and Allways.

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	4	20	16	9	8	0	
	3	30	9	7	0	0	
	2	28	5	4	0	0	
	1	2	0	0	0	0	
Total % =		100					
Matrix Payout ==========>			6.57 %				

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3	30	9	7	0	0	
2	28	5	4	0	0	
1	2	0	0	0	0	
Total %	100					
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With *Allways*, you can use up to eight different fonts in each single printout. *Allways* supports its own fonts as well as the LaserJet cartridge fonts, but only allows you to include one cartridge as available even though the LaserJet can have up to two cartridges. *Allways* comes with Courier, Times, and Triumvirate (which resembles Helvetica) typefaces.

As you set the typefaces and styles in the printout, the column widths and heights change individually to accommodate their assigned typeface and size. All text can also be boldface, underlined, or double underlined. Shading is available with three shades (light, dark, and solid black) able to be used from a single cell to an entire column, row, or block of space.

Creating outline cells and placing lines through tables is easy. Each cell can be identified as having a line at the top, bottom, left or right side. To make working with blocks easier, a block can be identified as a range; the correct line will be placed in the appropriate cell.

See the illustrations of the payout matrix for examples of table lines and shadings. The first payout matrix is printed directly from *1-2-3*. It shows the best that *1-2-3* can do with an attempt to fix up the appearance of the matrix. The second payout matrix shows how it might look after about five minutes with *Allways*.

Lastly, *Allways* lets you print graphs on the same page as the printout. The illustration labeled Linear Regression shows how that works.

Allways may be a good reason for us Lotus 1-2-3 users to fight rather than switch.

Hands On

Installation is simple—you run a setup program, *Allways* asks you questions about your particular configuration and then installs itself. *Allways* is a *Lotus 1-2-3* add-in; you invoke it with the ALT key, which you would assign to it as a hot key.

Within your worksheet, you work as you always have. When you are ready for a printout, you invoke *Allways* and then add all of the formatting and display options. The *Allways* formatting commands are stored in a separate file and have absolutely no effect on the current worksheet at any time. If your monitor is a graphics monitor, then all of the changes will be displayed as you do them.

You initiate printing from within *Allways* rather than with the normal *Lotus 1-2-3* printer routines. If you are printing graphs, you must also have the original *Lotus* graphic fonts residing on your disk.

Allways performs text justification slightly differently from *1-2-3*. In *Allways*, a centered label always stays centered, even if it is wider than its cell. In *1-2-3*, labels may not spill over the left edge of a cell. Right aligned labels will also spill to the left in *Allways*, unlike *1-2-3*.

Right-aligned text has an additional option in *Allways*. If you use | rather than a " as the text prefix, *Allways* will align the text over the edge of the cell rather than over the last number in the cell. This is handy if you want, for example, to align the label over a % sign rather than the last number in the cell preceding the % sign, as you would get in *1-2-3*.

The *Allways* menu structure is similar to *1-2-3*, except that you have pull-down menus for all of your selections. The menu selections are WORKSHEET, FORMAT, GRAPH, LAYOUT, PRINT, DISPLAY, SPECIAL, and 123. 123 returns you to your normal spreadsheet. So does ESC.

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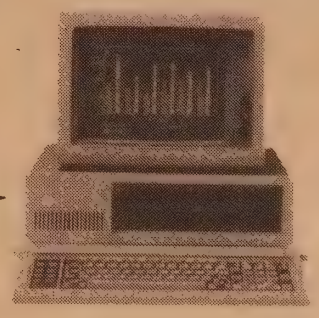

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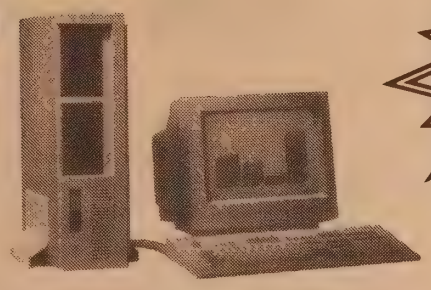

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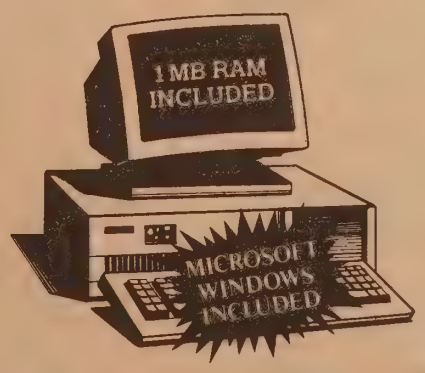

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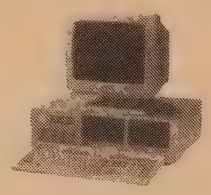

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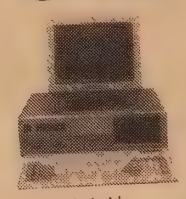

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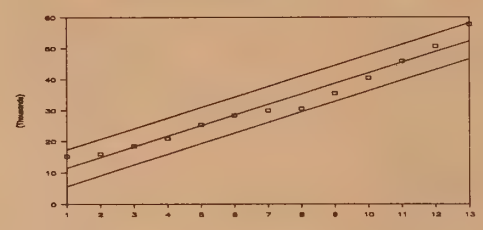
2	15969	14906	9098	20714
3	18484	18307	12499	24114
4	20898	21707	15900	27514
5	25281	25108	19301	30914
6	28334	28508	22702	34314
7	29966	31908	26103	37714
8	30485	35309	29503	41115
9	35541	38709	32903	44516
10	40435	42110	36303	47916
11	45847	45510	39703	51317
12	50632	48911	43103	54719
13	57705	52311	46502	58120

Count	13
Slope	3400
Y intercept	8105
Correlation	0.98
Standard Error	2826



Allways lets you print graphs on the same page as your tables.

Within FORMAT, you select colors, justification, fonts, font sizes, lines, boxes, and shading. Everything is the same point-and-shoot interface you're already familiar with in *1-2-3*. If you make a mistake, identify the same range, reset it to normal, and start again.

Within DISPLAY, you can change the size of the display screen to show much more than normal; you can also zoom in and inspect any particular part of your efforts. You can also change your colors for background, foreground and highlighting.

Within LAYOUT you gain control of the printer. In addition to specifying the dimensions of your paper and the top, bottom, left, and right margins, you can select headers and footers and borders at the top, bottom, and left side of the page. If you like, *Allways* will also print dotted gridlines along each row and column throughout your printout. (This is a feature you should use to print any worksheet you produce, since you can now follow rows across the paper or columns down the side with no problem.) You can select landscape or portrait mode. As with *1-2-3*, special symbols can be used in headers and footers. The @ sign will show today's date and the # sign places the page number. The illustration of the SALARY PLANNING MODEL shows how the gridlines appear.

PRINT is self-explanatory. If your page is larger than can fit on the printed page, *Allways* displays on-screen dotted lines for page breaks. This is the easy way to see what you are doing and adjust the worksheet on screen, rather than through the trial-and-error approach most of us are accustomed to. If only *Allways* would let me break the 240 character limitation of *1-2-3* for those extra-wide printouts using three-point type on a LaserJet II printer...

Within GRAPH, *Allways* gives you the options to display a *Lotus* PIC file at any place on your printout. You must first save the graphic as a PIC file in the *1-2-3* GRAPH menu. In *Allways*, you specify the range that the graph should fill, and *Allways* blocks off that range for you. You can display the actual graph on the screen if you wish; however, displaying a cross-hatched box gives significantly faster screen response time. *Allways* also has the ability to scale fonts to give a more pleasing appearance and improve the readability of the graph.

The documentation is quite extensive and probably not necessary. The menu structure is clear and concise. Since everything works like it does in *1-2-3*, a little experimentation will quickly show you everything it can do. I only used the documentation to look up how to create a graph and size it with *Allways*. Everything else was obvious to me.

Allways may be a good reason for us *Lotus 1-2-3* users to fight rather than switch. (*Allways* is published by Funk Software, 222 Third Street, Cambridge, MA 02142. 617/497-6339.) ■

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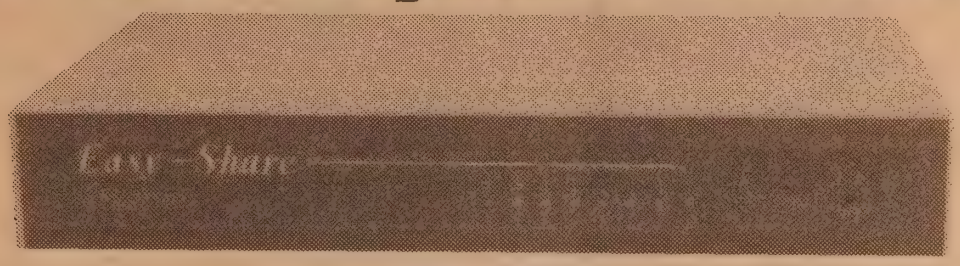

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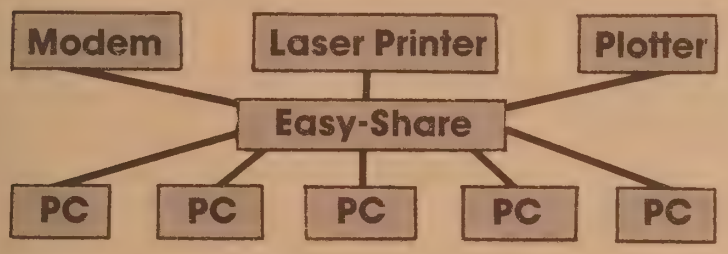

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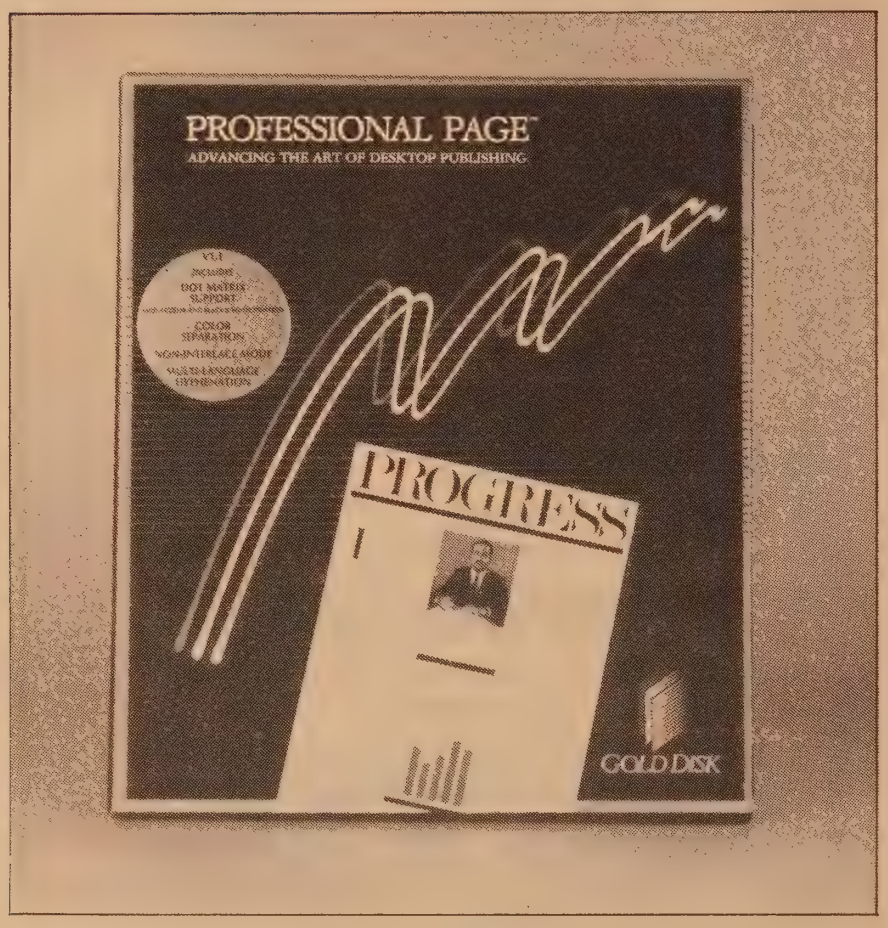
Professionals Look At Professional Page

PostScript-Based Desktop Publishing For The Amiga

By Sue Albert



There is a common perception in the computer industry, but particularly in desktop publishing, that only Macintosh and IBM products exist. However, the truth is more complex and much more exciting.

Up in the penthouse, IBM is busy patching the cracks and dents in a facade calcified by enforcing a standard too soon on a volatile, pre-pubescent industry. Macintosh creeps ever higher, holding out the carrot of seamless compatibility...for a price.

Down here on the Amiga mezzanine, it's noisy, crowded, sometimes confusing, a little dangerous, but wham-bam dynamic. Creative experiments and solutions proliferate. Proving that ideas and innovations can flow in both directions, we now catch the boys upstairs snatching features from us.

Serious DTP Meets Amiga

Major developers were reluctant to produce software for the untested Amiga, wonder child of the ever-enigmatic Commodore Business Machines. A professional quality page layout program was therefore slow in coming.

Just over two years ago, Gold Disk, a small Canadian software firm, brought out their first product, *PageSetter*. The first Amiga desktop publishing program, this dependable performer, with dot matrix output and PostScript augmentation, is currently selling worldwide in six languages.

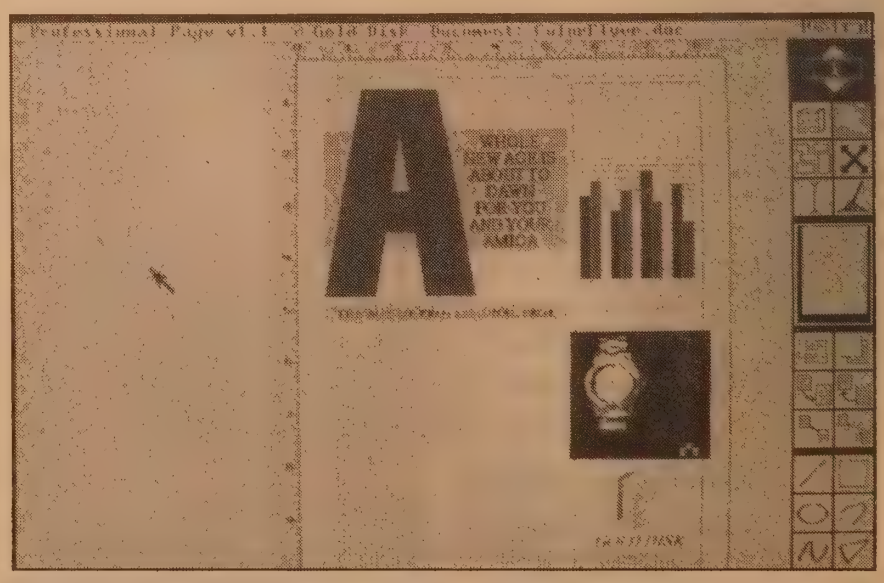
At the end of 1987 Gold Disk released *Professional Page*, a high-end, PostScript compatible, desktop publishing program. In only a few months *Professional Page* became familiar to Amiga users through its immediate use to produce the pages of *Info Magazine* and the *Robo City News*, both nationally distributed Commodore-specific publications. Since receiving the program for review, I have discovered two new outstanding periodicals using *Professional Page*: *Desktop Presenter* and *AmigoTimes*.

In a contest between the Amiga using *Professional Page* and the Macintosh using *PageMaker*, the Canadian offices of the prominent J. Walter Thompson Advertising Agency chose to install Amigas and *Professional Page* for color work, separations, and comps. The Commodore company itself does all its Canadian ads with *Professional Page*.

Why all the excitement about this product? The answer is simple: COST, COLOR, POWER, and COST. You can install three Amiga 2000s with *Professional Page* for the price of one fully equipped Macintosh II with *PageMaker* and have change left over.

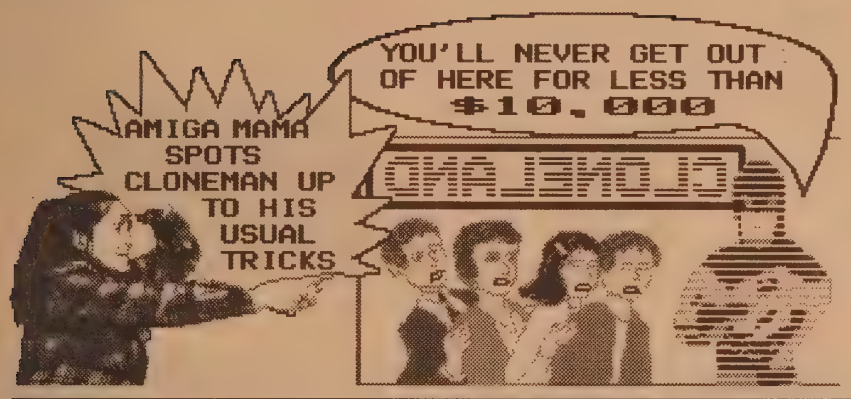
Professional Page cannot as yet match every feature of either *PageMaker* or *Ventura*, but it has something unique to offer. Mechanical and three- or four-color separations can be done from within the program and output immediately to a Linotronic for acetate or paper negatives with precision registration. This brings the cost of color separations traditionally obtained from an outside service down from $600-$700 a page to $10-$20 per plate. It also eliminates the errors, as well as the valuable time and labor lost between steps.

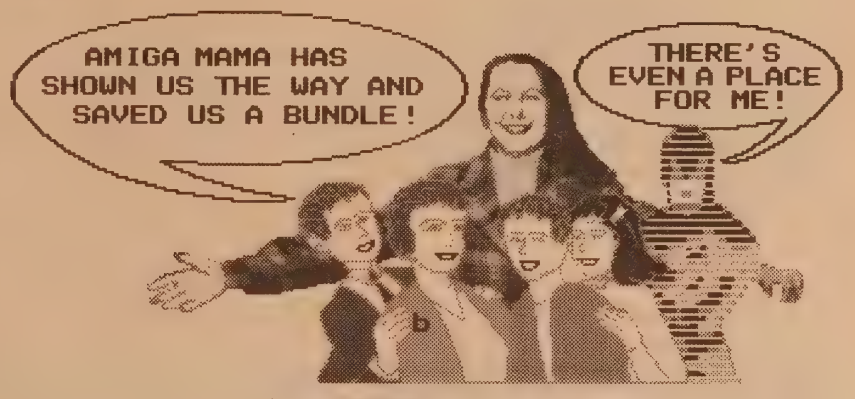
Professional Page felt very comfortable to me from the first boot. The screen is an "art board" with a half-screen size representation of the page. The familiar command bar of pull-down menus is at screen-top. On the right is a narrow box of easy-to-decipher tools. The mouse-wise program is fully backed up by key commands. Text and graphics are placed in boxes which can be scaled and cropped,



Professional Page offers color capability, Post Script, and other sophisticated features to the Amiga0based publisher.

COMPUTER SHOWCASE PRESENTS





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Amiga Mama appears thanks to George Christensen. This ad was produced at Computer Showcase with the FrameGrabber, Comic Setter, DigiView, DeluxePaint and Professional Page on an Amiga2000 and edited and printed on a Linotronic L100 at Giraffe-X Desktop Publishing, 1826 Divisadero St. San Francisco

rearranged or grouped, and moved. Page elements can be moved out and back from the art board. There are powerful features in leading, kerning, tracking, hyphenation, paragraph spacing, and fonts to 127 points. Text will automatically run-around boxes but not irregular shapes.

There is fairly complete word processing within the WYSIWYG program, and *WordPerfect* files may be encrypted with labor-saving formatting codes. Text from several major Amiga packages or generic ASCII files are accepted. Any IFF format bitmap graphics may be imported. *Professonal Page* includes structured graphic tools and a variety of fill patterns and lines in different sizes and colors. There are five magnifications and a myriad of professional features and tools.

Since it is almost impossible to fully test a professional package at home without access to high-end printing equipment and without the actual pressures and realities of commercial publishing, I went directly to the horse's mouth and spoke to two Bay Area publishers using *Professional Page.*

Desktop Presenter

The focus of the nationally distributed *Desktop Presenter* is non-denominational desktop publishing and video presentation. The full-color artistic tabloid is at present a bi-monthly. I met with John Wagoner, the publisher and editor, at the Giraffe-X desktop service in San Francisco. He was sitting at the Amiga putting the finishing touches on a high-impact page layout for the second issue.

Since there are Macintosh, IBM, and Atari machines used in his offices at Desktop Communications, my first questions to Wagoner had to do with his reasons for choosing the Amiga and *Professional Page* for the premier issue of *Desktop Presenter.* Admitting his personal affinity after two years of Amiga experience, he cited the ability to do color separations from within *Professional Page*, use of both a hard drive and floppies, and that major consideration, cost. He aim was to produce an attractive commercial publication utilizing programs and equipment within the means of the ordinary user.

Desktop Presenter #1 was generated completely on Amiga 2000s with 2 megabytes of memory and Hurricane coprocessor boards for accelerated performance. There were no pencils, glue, paste-up, or stripping involved. This gave Wagoner almost complete control over the production right up to the final printing. Rich graphics, the colorful covers, bold illustrations, and cartoons were produced using a variety of Amiga art packages, as well as the structured drawing tools within *Professional Page.* The finished pages after color separation were dumped to a Linotronic which produces camera-ready acetate negatives sent directly to the printer.

If this sounds too rosy, Wagoner will quickly assure you that no desktop publishing program or computer is perfect. With the first issue there was a problem with the black color separations printing too dark. Gold Disk was very cooperative in offering working solutions and is looking into making adjustments to the software in the next update.

Strong contenders on Wagoner's wish list are style sheets, rotation of text, and support for longer columns. *Desktop Presenter* is 11" x 16"; although the program can present a 17" x 17" page, it will only do columns 11" long. He would like to see *Professional Page* support pagination, automatically flow around irregular shapes, and have an intelligent autosave. Wagoner echoed my sentiments that the program's slender documentation is inadequate.

While he feels the Macintosh needs products and support at the low end, Wagoner sees the Amiga lagging without high-end components—in particular, a high resolution color monitor. He feels the soon-to-be-released b/w monitor only solves the problem of interlace flicker.

Reader response cards from the first issue of *Desktop Presenter* indicate that 80 percent of the Amiga owners had one or more other computers. Wagoner speculates that users familiar with Mac, IBM, or Atari, understand enough computer terminology to know why they need the Amiga's multi-tasking, 4096 colors, and expansion capabilities. Users doing video art or presentations are familiar with equipment and video jargon and are seeking solutions. As Wagoner said "The Amiga is a solution-based machine."

Robo City News

I met with Mitchell Lopes, editor of *Robo City News,* at the Palo Alto Hyatt Hotel as he was preparing for the monthly meeting of F.A.U.G., the First Amiga Users Group.

Robo City News switched from PageMaker on the Mac to Professional Page.

The *Robo City News* started three years ago as the newsletter for this large and active group, which includes several of the original Amiga developers. Beginning with dot matrix output from a Commodore 128, it progressed to Amiga text with traditional pasteup and typesetting. As circulation increased, they switched to Gold Disk's *PageSetter* until their needs outstripped the software. Going into national distribution they used a Mac and *PageMaker* for several issues until they received a beta copy of *Professional Page* late in '87. Life became simpler with the upgrade to the present V1.1, which dealt with some early bugs.

As with *Desktop Presenter,* the smaller format (8.5" x 11") R*obo City News* is created completely on the Amiga. Original art created by leading Amiga artists is used for full color, coated covers which are color separated and output through the Linotronic to negative film. The body of the publication is b/w with illustrations, photos, and varied layouts output to cost-saving paper plates. After pagination the plates are sent to the printer.

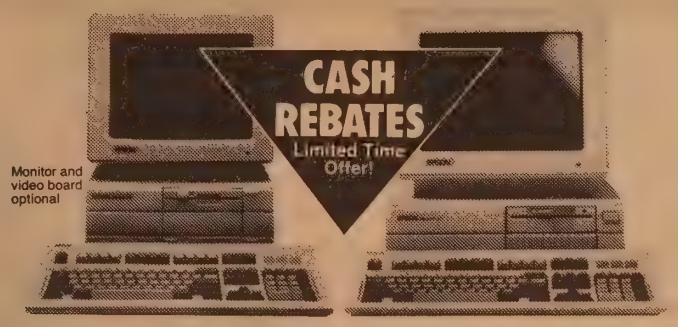
Lopes experienced several hard disk crashes and data loss during large saves with *Professional Page.* I checked this out with other users and with Gold Disk representative Burton Robson, and found no other reports of hard disk problems. Needless to say, Lopes emphatically recommends frequent saves to disk.

Lopes has a different set of priorities for improvements to *Professional Page.* Though the initial version had PostScript output only, V1.1 now supports b/w and color dot matrix printers, but with admittedly wimpy results. He would like to have accurate dot matrix output for proofing layouts. He would also welcome better memory management. Lopes feels that the program is not dealing well with fragmented chip memory which can cause unusual "events" when working with masses of graphic information. He would like to see incremental saves of "changes-only" until the user does a "save as." He would also welcome more explicit documentation and rotation of text/graphics boxes. Both Lopes and Wagoner mentioned the blessings of the grouping feature for boxes and the curse of not being able to un-group them.

And More

I was extremely impressed when I received a sample issue of *Amigo-Times.* Published in Quebec Canada, the second issue is 80 pages, so polished it has lost any look of being "computer-produced." Another magazine produced entirely on Amiga, it uses lavish color in photos, illustrations, and text; its clever page layouts erase any doubts about the high quality results achievable with P*rofessional Page.*

Professional Page is soon to become plu-professional with two new products in the Gold Disk pipeline. Due for release right about now is a powerful structured drawing program for jaggie-less, full color, graphic creation.



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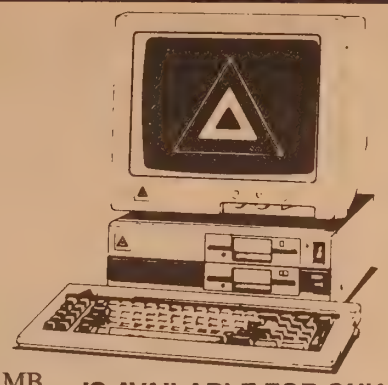

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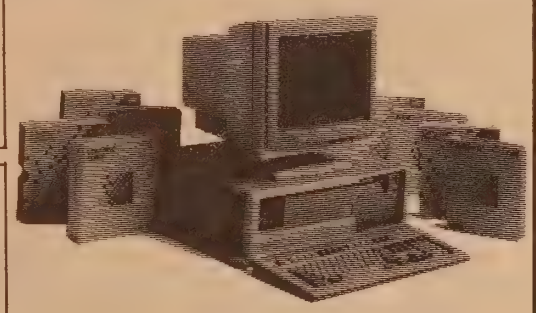

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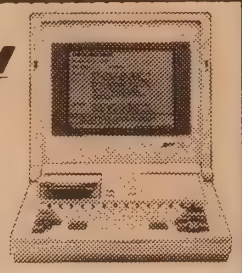

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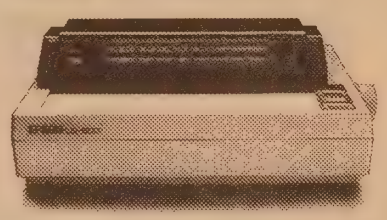

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REVIEWS

Info Magazine uses Professional Page to create colorful pages with sharp type and impressive graphics.

Professional Draw will allow text and graphic boxes to be shaped and rotated. The ability to convert IFF files and HAM images into editable structured drawings adds considerable creative power to *Professional Page*. It will output to 24-pin printers, color printers, lasers, and laserjets, and to any PostScript device including typesetting equipment. It will also do color separations and will be fully compatible with *Professional Page*.

Promised early in 1989, the SpectraScan interface for the Sharp JX 450 scanner will capture and store images in four settings. There'll be a choice of: 1-bit monochrome, 3-bit with eight colors, 8-bit true gray scaling, and—are you ready?—24-bit planes with 16 million colors. This will be a high-end Amiga product priced at an estimated $600-$700 with the Sharp scanner costing another $6000-7000. Can that high resolution color monitor be far behind?

Profe*ssional Page* is more then just interesting low-end marketing. This is a revolution. It's conceivable that, with an investment of less than $15,000, one talented person, from any location having electricity and a phone, could produce a publication to match anything on the newsstand. Though I'd love to see one of you talented readers deliver an auxiliary manual for *Pro Page* or an "Idiot's Guide" to the CLI, Amigas shouldn't be limited to computer publications.

Small literary reviews, professional journals, political posters, instruction booklets, or school publications can now afford to lose the "made with loving hands" look. Vanity press will have a whole new meaning. The free enterprise system is giving the power of the press back to the people in the most personal way. It's going to be intriguing to see if we will be buried first in junk mail or undiscovered genius. ■

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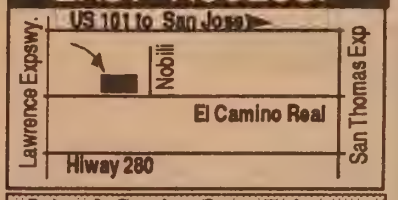

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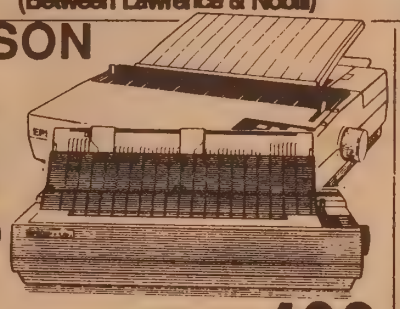

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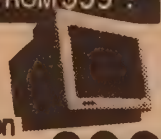

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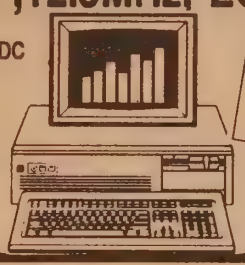

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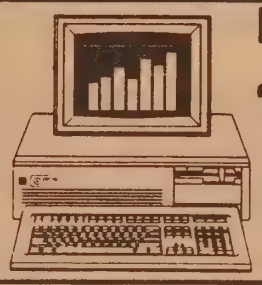

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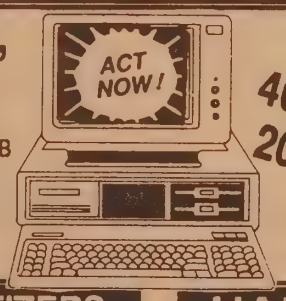

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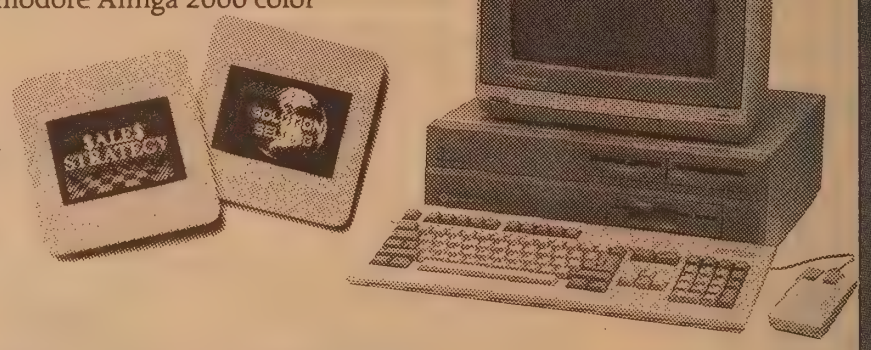

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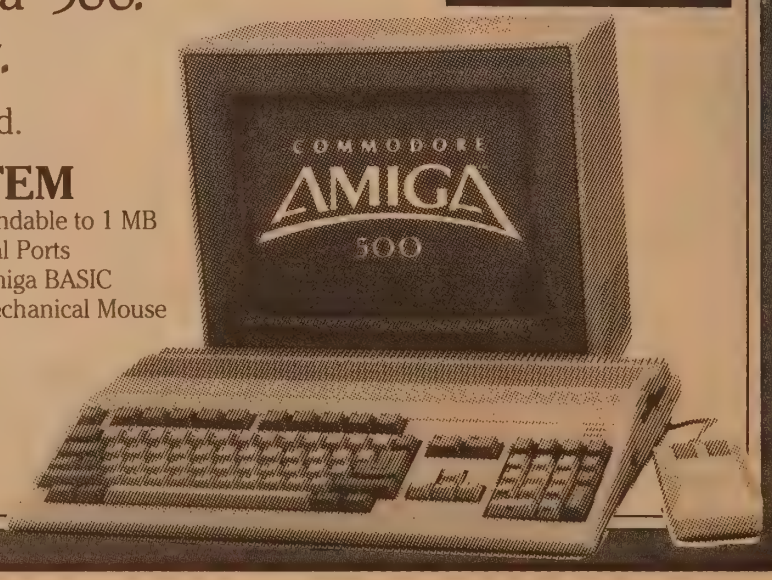

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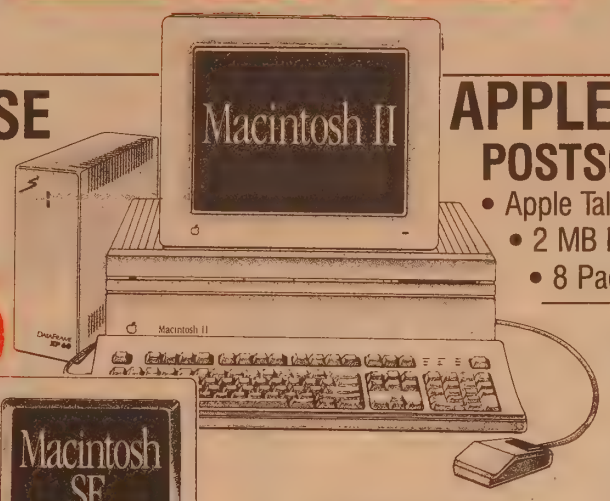

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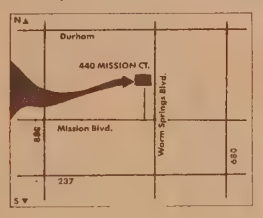

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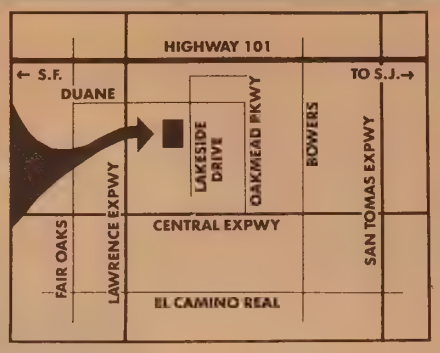

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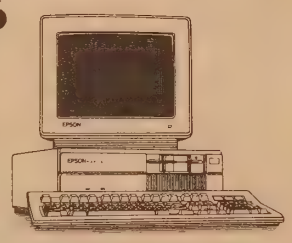

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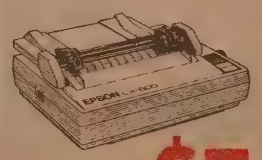

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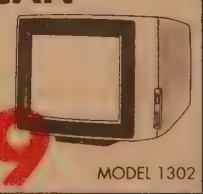

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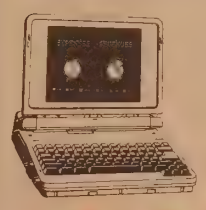

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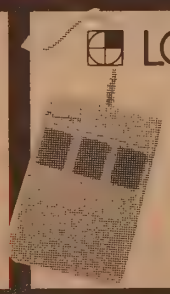

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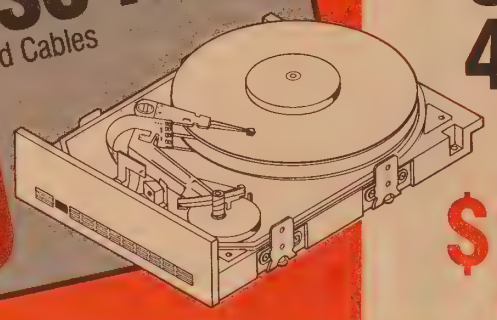

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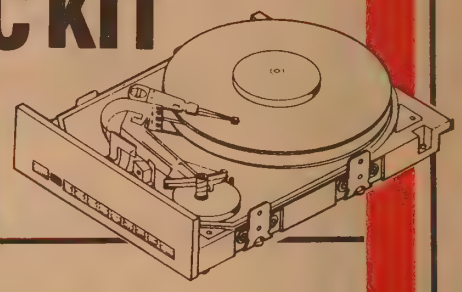

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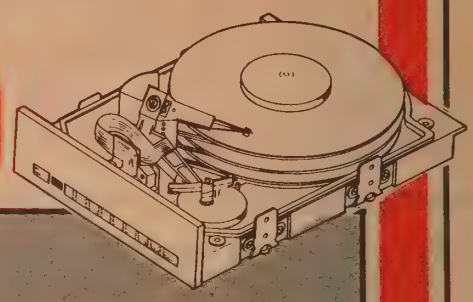

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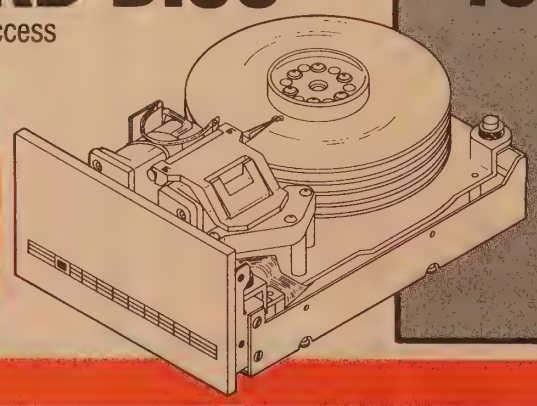

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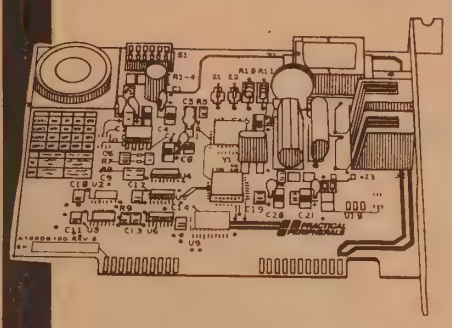

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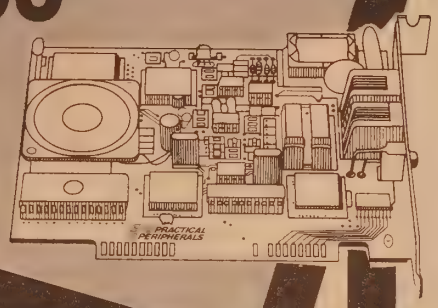

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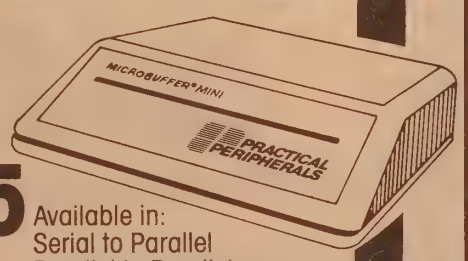

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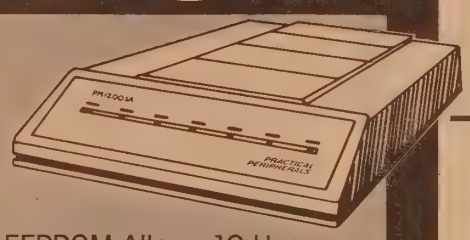

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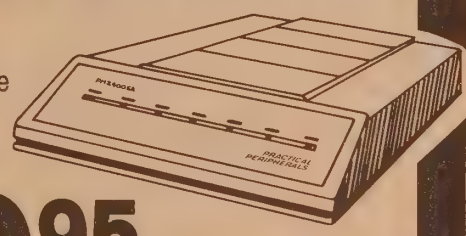

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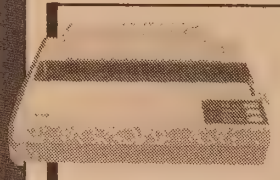

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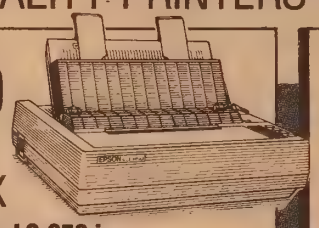

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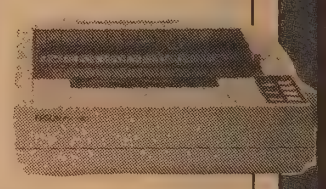

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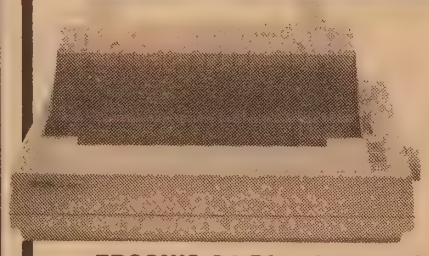

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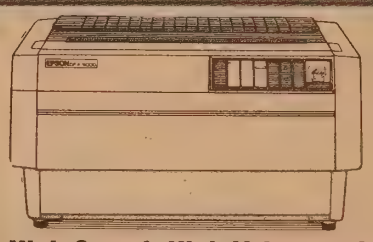

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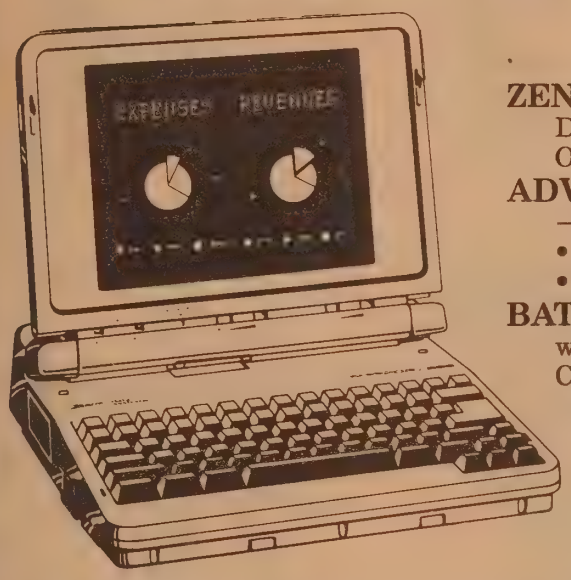

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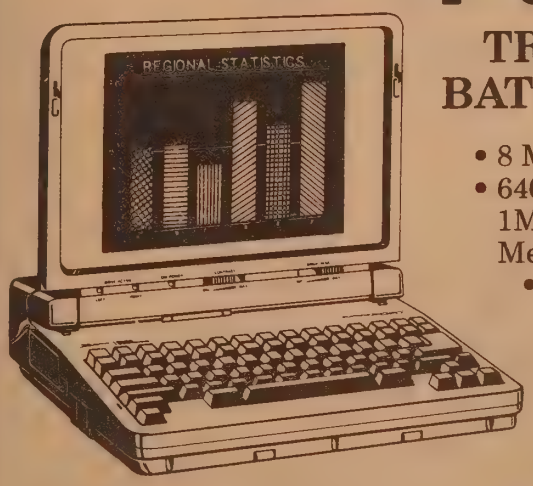

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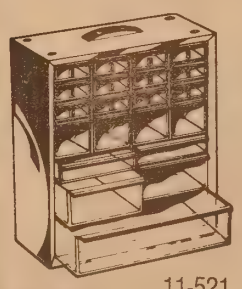

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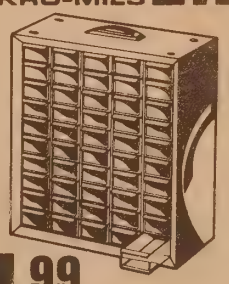

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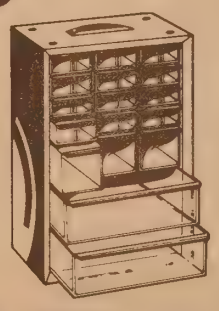

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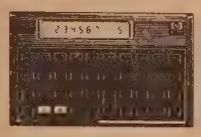

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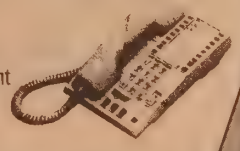

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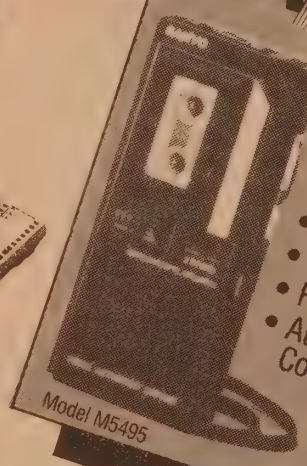

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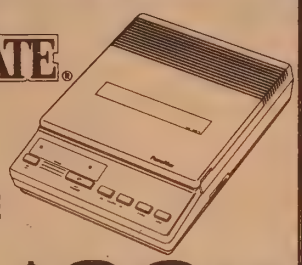

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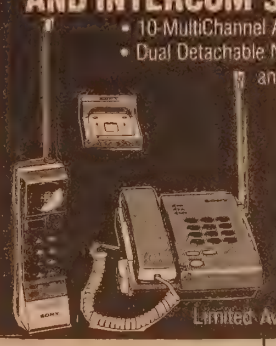

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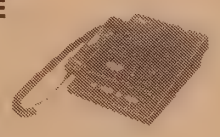

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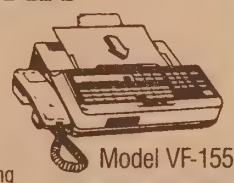

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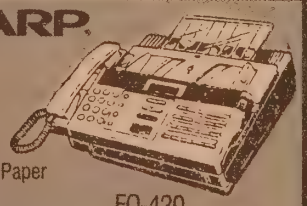

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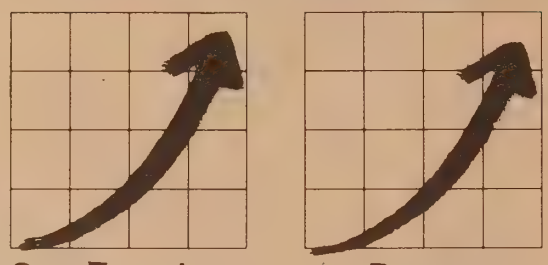

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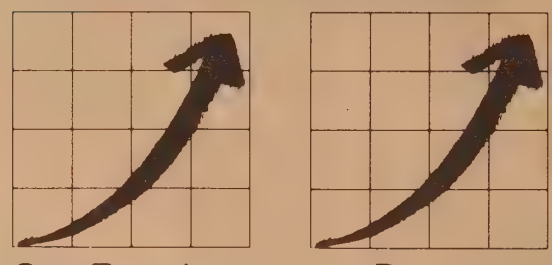

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GRAPHICS

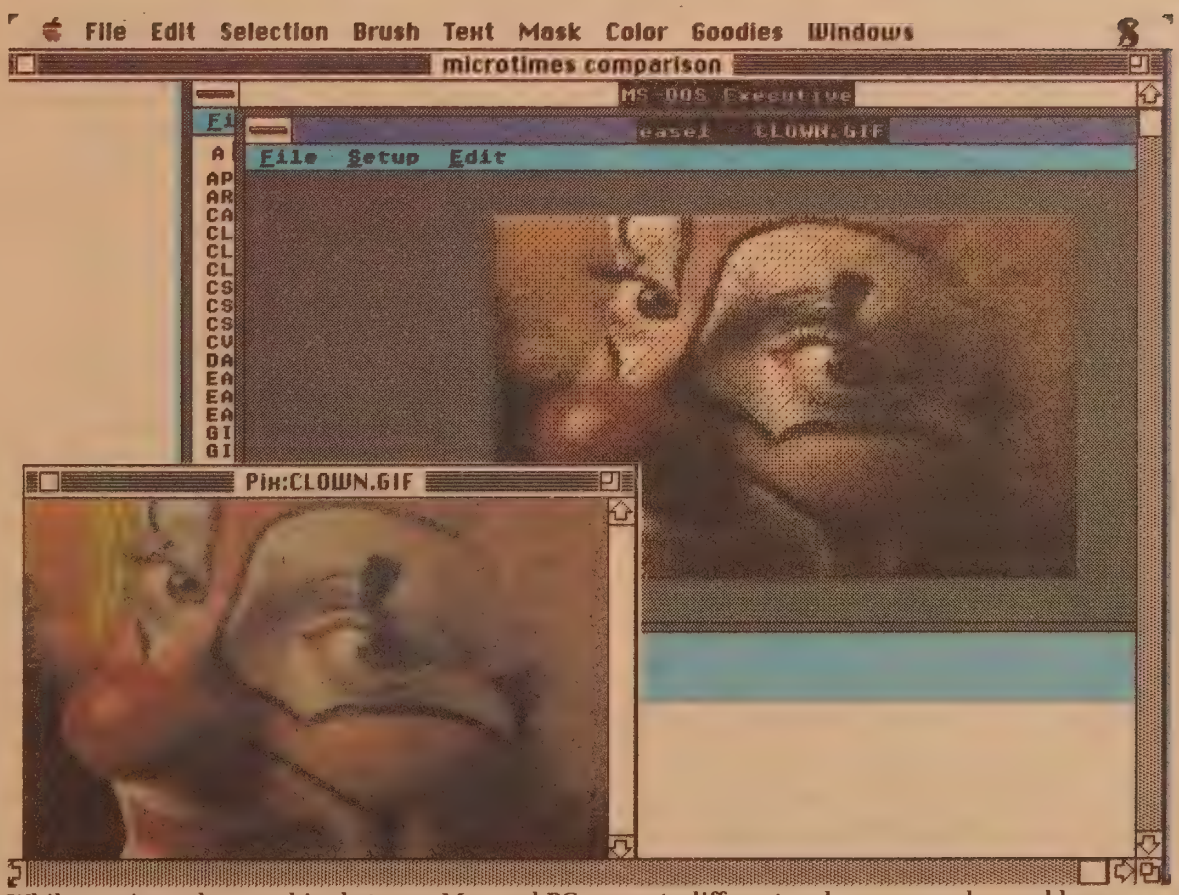
PC to Mac, There And Back

By Lenny Bailes

The Macintosh is the tool of choice for graphic artists, the PC for businessmen. This folk axiom is learned by all new computer users. In the early development of both machines the axiom was useful for consumers.

But now, in 1989, folk knowledge of this sort is not so useful. Why shouldn't I be able to draw an organizational chart with *FileMaker* on the Mac and send it over for a report done on the PC with *WordPerfect 5*? Why can't a businessman generate a graph with *Lotus* or *Harvard Graphics* and give it to a brochure designer in his company who uses a Mac? Why not take a gray scale image or a logo out of Adobe *Illustrator* and send it over to the PC for letterhead?

The fact now is that Macs and PCs are both capable of performing as either business tools or graphic design tools, and many offices use both types of computer. Companies like TOPS, DataViz,



While moving color graphics between Mac and PC presents different and more complex problems than moving text files, it's possible—and getting easier.

Color Separation produced by ImageSet Corp. ColorSet™ software. ImageSet 555 19th St., San Francisco, CA 94107, (415)626-8366.

Macs and PCs are both capable of performing as either business tools or graphic design tools, and many offices use both types of computer. Most people know that ordinary text can be exchanged between the two environments. Much less is commonly known about exchanging graphics.

and Traveling Software have begun to make people aware that ordinary text can be exchanged between the two environments.

Much less is commonly known about exchanging graphics. There are some attempted solutions which have attracted public notice, but they're expensive and won't always work—e.g., "Just use *PageMaker* and Adobe *Illustrator*." If you buy both the Mac and PC versions of these programs you will, indeed, be able to transfer some graphic images. (*PageMaker* is limited to transferring bitmapped images only. Try sending a *PageMaker* file with a *MacDraw* illustration over to a PC and see what happens).

A bitmapped image is just a list of pixels to be turned on and off over a defined range. This is stored by your paint program as a numerical array, and transferring that array is not so difficult. Object oriented images are different. They are the kind that don't deteriorate when you shrink and enlarge them. Object images are formed by vector algorithms which tell your software how to draw the lines ((HPLOT or DRAW (00,10)-(50,100) in BASIC)). Each program has its own set of proprietary drawing instructions.

If you're dealing with *AutoCAD, Harvard Graphics,* and *Micrografx Designer* on the PC, or Aldus *FreeHand* and Adobe *Illustrator* on the Mac, there are now some commercial utilities which can convert object oriented (line art) images between them, or into the generic Macintosh PICT format. More commercial tools are on the way, and these will be dealt with in part two of this article.

Meanwhile, if you don't want to send your artwork over Ambassador Class, you can still fly. Logos, graphs, and creative artwork can be transferred between Macs and PCs on a rough-and-ready level with many programs created by shareware hackers on public bulletin board systems. These people were exchanging graphics files before the advent of programs like *Curator* on the Mac or *Hijaak* on the PC. *Curator* and *Hijaak* are both excellent commercial packages for file conversions. In this article I'll be focusing on applications which are less well known, but still get the job done.

PART I—Flying Coach Fare (Bitmapped Images)

Just as word processors define text in individual, unique file formats, so do graphics programs. Just as more popular word processors have established standards for text, standards for graphics are now beginning to emerge.

For bitmapped images, the Macintosh standard is *MacPaint*. On the PC the most common format is *PC Paintbrush*. To successfully port images from the myriad of paint programs, the first step is to put your image into one of these two formats. (There are other filetypes which are shared by Macs and PCs, but they're not universally compatible, owing to proprietary reservations by software companies. We'll get into this later for those determined to preserve their scanned images in all of their gray scale glory.)

Let's assume that you've got a nice cartoon one of your arty friends has done on a Mac, and you've got a PC clone at home. You want to add the cartoon to a scrapbook of things created with *PC Paintbrush* (or *Dr. Halo, Windows Paint, GEM Paint* —substitute your favorite PC drawing program).

If you and your friend have modems, you can move the file from one computer to the other over the telephone. If you don't have a modem, there are now numerous Desktop Publishing Parlors which will let you transfer the file for $10-$15 an hour. The nicer ones will even prorate the time, since the transfer operation should consume no more than 10 minutes.

Mac To PC

To go from Mac to PC, save the image as a *MacPaint* file. If the file creator had some other original format, you can take the display on the Macintosh screen and do a *MacPaint* screen dump with Command-Shift-3. To transfer the file with modems, your best bet is to use *Red Ryder* on the Mac, and any communications program which supports XMODEM on the PC.

Macintosh communications programs have their eccentricities as to which files can be sent with which protocols. In general, you should select MacBinary XMODEM. If this doesn't work, *Red Ryder* has an option called "Supercharged XMODEM" which removes error checking. With *Freeterm, MicroPhone, Versaterm,* etc., if MacBinary XMODEM doesn't work you have the alternative of converting the file into something which can be sent in "text" format. The Mac utility *Binhex* will take a *MacPaint* file and turn it into a .BIN file which can be transferred as text (some programs call this "text XMODEM"). Using *Binhex* to send a file as "text" may also produce best results if you don't have software on the PC side which can deal with MacBinary fileheaders (more on this later).

If you go to the laser parlor, someone will probably be able to show you how to use TOPS to painlessly accomplish the same result. Just point and click on the Mac and the file will pop up on the PC's hard disk.

Shareware Tools

Okay, you've got the file over to a PC now in *MacPaint* format. If you're working with *First Publisher, Ventura Publisher, PageMaker* or *WordPerfect 5*, your job may be done. Each of these programs will read most *MacPaint* files directly.

If you need to manipulate your image for formats other than *MacPaint*, there is quite an assemblage of shareware floating around public BBS systems to help you.

Optiks and *Iconvert* are PC shareware programs which can read a raw *MacPaint* file and do editing or file conversion. The "public" version of *Optiks* will save a *MacPaint* file in BASICA format. The registered version will save it in virtually any PC compatible format you desire, including *PC Paintbrush*, Aldus-Microsoft .TIF, and Encapsulated PostScript. *Optiks* permits fatbit editing, addition of text in many different fonts, and various image manipulations. *Iconvert* is fully operational for multiple format conversions in the trial package. It converts to and from *MacPaint, PrintMaster, Print Shop, NewsMaster,* BASICA, *Fontasy, PC Paintbrush, Windows Paint,* and RLE. *Iconvert* allows you to view an image, perform some manipulations and mark multiple copies for color separation.

There are also some PC picture viewers designed to display files called ReadMacs. ReadMac is just a pseudonym for a *MacPaint* file which has been ported to the PC environment. Sometimes the Macintosh file header has been stripped out. *Allmac* and *TheGrin* are two shareware "ReadMac" viewers. *Allmac* will display a *MacPaint* file on the PC screen, allowing you to grab it with a screen capture utility. It allows fatbit editing and resaving in *MacPaint* format. *TheGrin* will not only display images, it will allow enlargement, reduction, rotation, adjustment of contrast, and optional saves in *MacPaint* or BASICA BSave format.

Sometimes a *MacPaint* file won't load directly into a commercial PC publishing package like *WordPerfect* or *Ventura*. This is usually due to the MacBinary fileheader mentioned in the last paragraph. MacBinary fileheaders contain information sent over by the Mac, but unwanted by the PC—the name of the file and its creator. Check your nearest shareware vendor for utilities like *Mac2Vent*, or *DeCap* which strip out the fileheader. These will decapitate the file, retaining only the desired bitmap array information. *Mac2GEM, MacHalo,* and *MacWind* are alternate conversion programs for other PC paint packages.

PC To Mac

To send an image from the PC to the Mac, we apply the procedures outlined above in reverse. The PC doesn't have a built-in screen dump key, but there are numerous free and commercial utilities which will save a screen to disk for you. Since we're flying coach now, let's mention *Cap* and Keith Graham's *OKScrn*, two shareware programs which will sit in memory and write a screen to a *PC Paintbrush* file when called for. Good commercial paint programs generally have capture utilities which will do

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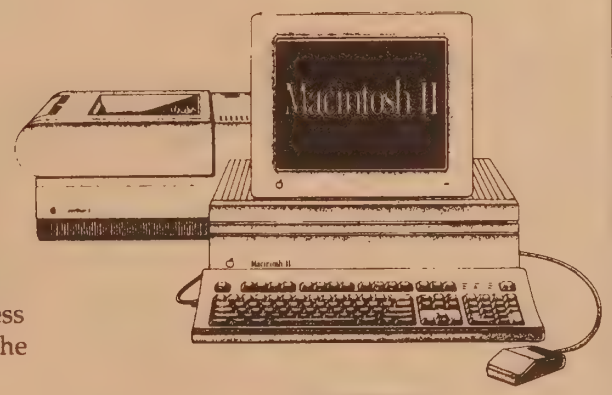

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screen dumps to their own particular formats. If one of these matches *Iconvert*'s defaults, you can change the file directly to *MacPaint* format. *First Publisher* is an inexpensive commercial program which captures screens and reads several file formats (*PC Paintbrush*, Microsoft *Paint*, *PC Paint +*). *First Publisher* saves bitmapped screens as *MacPaint* files. This is a good alternate tool for image preparation and conversion which also provides low-end desktop publishing capability.

Sending files from the PC to the Mac by modem has a few extra pitfalls. In general, you should select the MacBinary option on the Mac software. Receiving files with "text XMODEM" may result in unusable files. If your communication package lets you set incoming default resource information on the Mac, set the creator to *MacPaint* (MPNT) and the file type to "painting" PNTG.

If your Mac communication program doesn't let you set the filetype, the incoming file will appear on the desktop as a blank text icon. To view the file in *MacPaint* or *SuperPaint*, it must show a paintbrush icon. You can change the filetype with *ResEdit*. Load *ResEdit*, select the ported file and click on Get Info. Change the file creator to MPNT and the file type to PNTG.

Again, if you transfer the file with TOPS, *MacLink*, or *LapLink Mac*, this will all be taken care of for you automatically. The file will just pop up on the Desktop ready to view.

Shades Of Gray

If you've followed what we've done so far, now let's assume you have a 16-color *PC Paintbrush* file which might look nice in a Mac art library. *Optiks* and *Iconvert* will make the image into a black and white bitmap after conversion to *MacPaint*—not nearly as pretty as the original.

If you're fortunate enough to own Inset Systems' *Hijaak*, you've got a conversion utility which will change a color *Paintbrush* file into a *MacPaint* file with dithered gray scales. (Dithering is a process which simulates gray scales by integrating white space into the image). Dithered gray scales look better than straight black and white. *WordPerfect 5* also has a conversion utility which changes 16 or 256 color palettes to dithered grays. Converted *WordPerfect Graphics* files (WPGs) can be displayed by a shareware program called *WPDraw*, captured and converted to *MacPaint* format.

For the more adventurous, *PC Paintbrush* and *Inset* allow setting of black/white ratios for each color when printing a file. Dithered images can be printed to disk in Hewlett-Packard Printer Control Language by choosing LaserJet as your printer. The resultant files can converted back to *MacPaint* format by *Hijaak* or the registered *Optiks*.

Color

The basic technique of capturing a bitmapped screen and sending it to another computer in a compatible format can be extended to allow transmission of 256-color images. There is one bitmap format which was designed to be used on both the PC and Macintosh (as well as the Atari and Amiga). The GIF (Graphics Interchange Format) was developed by CompuServe for exchanging files with their on-line service. GIF files provide for display of up to 256 colors in both Mac and PC environments.

The simplest way to transmit a file is to do a dump of the image on your screen to the GIF format. ImageSet Corporation of San Francisco offers a utility called *PixelPop* which accomplishes this on the PC. The evaluation version will capture screens in all CGA, EGA, VGA, and Hercules modes to GIF files. The registered version permits saving screens in other formats, as well. ImageSet Corporation is also responsible for the color processing on some of the graphics which accompany this article.

Several shareware PC utilities will convert a *PC Paintbrush* file to GIF, retaining all of the color information. Look for *Cvtgif.arc* or *Easel310.ARC* on your BBS or from local disk vendors. *Cvtgif* just reads in *Paintbrush* files, writes out GIFs. *Easel* is a shareware display-edit-conversion program which runs under Microsoft *Windows*. It can cut and paste, rotate and resize images. *Easel* reads and writes to *PC Paintbrush*, GIF, MS *Windows Paint*, *MacPaint* or Mac startup screen formats.

The transfer by TOPS to the Macintosh is semi-automatic. If you're sending files by modem, *Red Ryder* is still the best software to use on the Mac side because of its ability to specify the file creator of the incoming image. (I also used *MicroPhone* successfully, set for MacBinary transfer. *Versaterm* wouldn't cooperate, and with the GIF files, the "text" option won't transmit a readable file).

Modifying Images

On the Macintosh you can work on a GIF image with an application called *Vision Lab*. *Vision Lab* is a shareware program authored by John Raymonds. It will display an image in color on a Mac II or in dithered grays on an older machine. On the Mac II, color and dithered gray scale versions of the image can be displayed on the screen at the same time. Vision Lab will load the ported PC GIFs without your having to change the file creator, but if you want to be able to click on a file you must resave it, or use *ResEdit* to change the creator to "JRVL." File type is "TEXT."

Vision Lab reads and writes in PICT2, EPSF, *MacPaint*, and *PixelPaint* formats, as well as GIF, allowing images to be imported from or exported to practically any Macintosh application. This also makes *Vision Lab* a useful tool for sending color images back to the PC environment.

On the PC side, GIF files can be worked on with *Easel*, or viewed by non-*Windows* shareware. *CompuShow*, *VGIF*, *Grey*, and *Picem* are GIF viewers which support a variety of low, medium, and high resolution graphics modes, color, and monochrome. Screens can be recaptured from the GIF viewers for use with PC graphics and desktop publishing applications. *VGIF* permits screens to be resaved in *PC Paintbrush* format, retaining color palette information.

Part two of this article will talk about object-oriented (vector) artwork, exchanging *AutoCAD* and *MacDraw* files, PICT to Targa for *Lumena*, TIF and Encapsulated PostScript. See you next installment in Ambassador Class. ■

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RESOURCES

PC & Mac Commercial Software:

PC Paintbrush (Z-Soft); *Hijaak* (Inset Systems); *WordPerfect* (WordPerfect Corp.); *First Publisher* (Software Publishing Company); *PixelPop* (Available for evaluation from ImageSet Corporation, 555 19th Street, San Francisco, CA 94107); TOPS (Sun Microsystems); *MacLink* (DataViz); *LapLink Mac* (Travelling Software); *The Curator* (Solutions International); *Red Ryder* (FreeTerm); *MacPaint* (Claris); *ResEdit* (Apple).

PC Shareware:

(capital letters are filenames for programs on public BBS systems)

Convert/Edit:

Iconvert (J. Michalski, $35, CompuServe: 70441,274 Genie: J.Michalski—ICON110D.ARC); *Optiks* (Keith Graham; $79.95, 32 Smith Avenue, Nyack, NY 10960 or register & download on The Other Woman BBS, 707/938-3508—Demo is OKF211.ARC); *TheGrin* (Ian Davis, $15, 1929 Whitecliff Court, Walnut Creek, CA 94596—TGRIN210.ARC); *Allmac* (Frank Schweiger, $5, 10083 Heytesbury Ln, Sandy, UT 84092—ALLMAC14.ARC); *Easel* (Kim Levitt, $20, Synergistic Enterprises, 8033 Sunset Blvd., #975, Los Angeles, CA 90046 Genie:KIM-LEVITT CompuServe: 76137,1602 EASEL310.ARC); *WPDraw* (Kenneth Macleod, BBS:617-965-8294—WPDRAW.ARC).

File conversion only:

MacHalo/HaloMac (MACHAL10.ARC, HALOMAC.ARC), MAC2VENT (Michael Volk, $5, 91 Princeton Arms West, Cranbury, N.J. 08512); *MAC2GEM, MAC2WIN, WINDMAC, DECAP* (Ariel Frailich CompuServe: 72477,326); *FIXPCP*.

Screen Capture:

OKScreen (OKSCR00.ARC); *Cap* (CAP.ARC); *GemCap* ($5, Alchemy Mindworks, P.O. Box 313, Markham Ontario, L3P 3J8 - GCAP10.ARC).

GIF utilities:

Halo2Gif (Rick Martin, CompuServe: 73105, 1160 - HALOGIF.ARC); *Cvtgif* and *Picem* (John Bridges, Public Domain, CVTGIF.ARC, PICEM19B.ARC); *CompuShow* (Bob Berry, $15, Canyon State Systems and Software, P.O. Box 86, Sedona, AZ 86336, CompuServe: 76555,167 CSHOW6.ARC); *Grey* (Michael Vigneau, 25 Emerald St., Newton, MA 02158 CompuServe: 76703,4275 - GREY-15.ARC); *VGif* (Bob Montgomery, $10, 123 Parsons Road, Longwood, FL 32779 - VGIF30.ARC).

Mac Shareware:

Vision Lab .067 (John Raymond/Koala Technologies, Delphi:Jones CompuServe: 76174,205 Genie: Raymonds); *BinHex* (Mainstay, 28611B Canwood St. Agoura Hills, CA 91301).

BBS Systems:

These are some graphics bulletin boards where you may find the shareware discussed in this column:

PC Only: Pixel Penguin (415/482-3402), The Network (415/474-4523), Mainframe (415/992-8099), Telenaut (415/388-4007), The Other Woman 707/938-3508 (registered version of *Optiks*), PC Rockland (also *Optiks* registration, lots of files! 914/353-2538).

Mac and PC: Tsunami (415)726-2726 (*Vision Lab* and other Mac graphics utilities).

File Transfers

(Rent time on TOPS network).

Copy-Rite
74 New Montgomery Street, San Francisco, CA (415/546-1177).

Krishna Copy Centers: various locations in Bay Area (800/323-3688) (San Francisco: 415/543-3688; Berkeley: 415/540-5959).

Abacus Desk Top Publishing Systems 547 Frederick, San Francisco, CA (415/759-9508).

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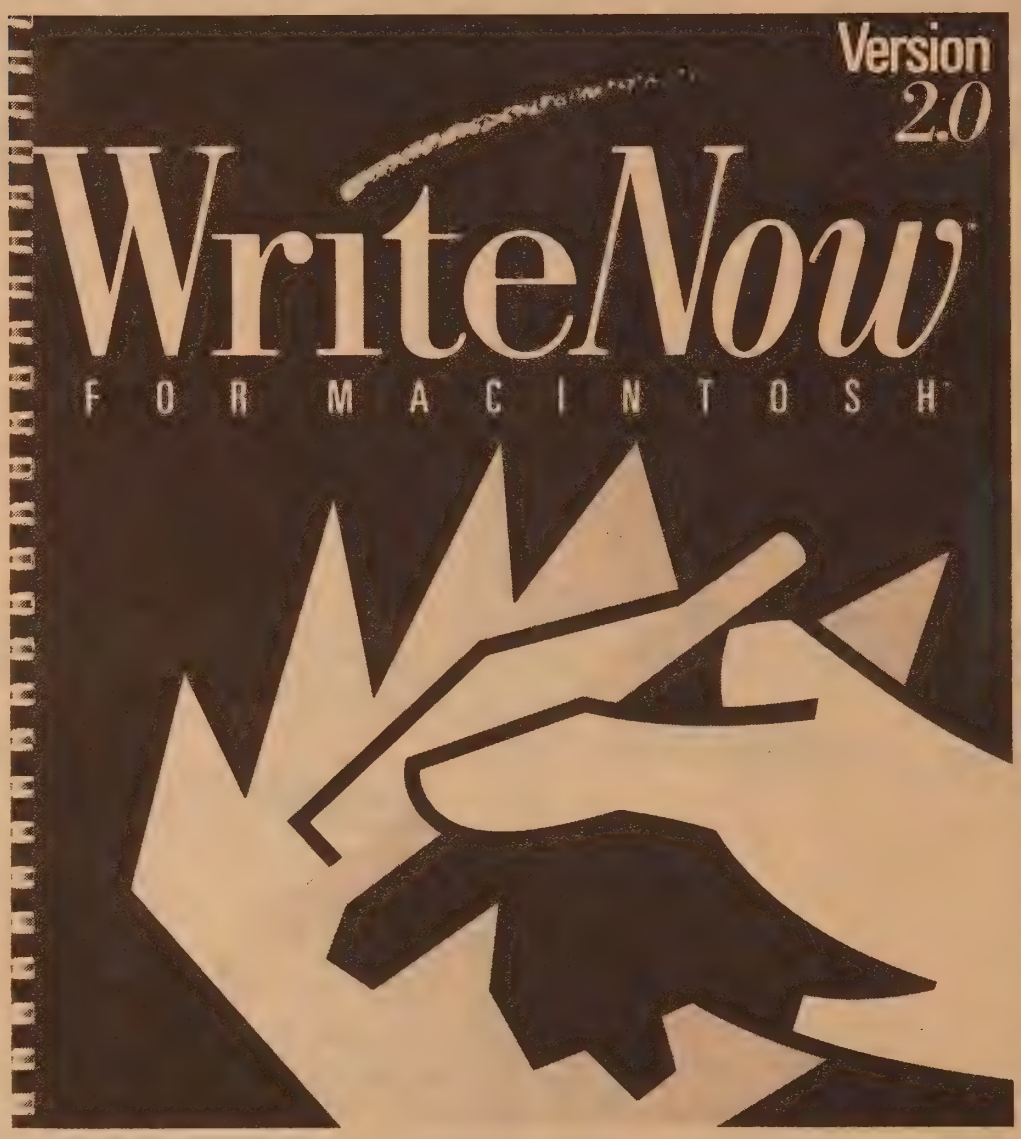

As a dedicated Microsoft *Word* user, I got sick and tired of hearing *WriteNow* devotees tell me how *their* word processor was the only true Macintosh word processing application (very "Mac-ish," they called it). "Well," I'd say, "does it search and replace formatting characters?" "No," came the inevitable reply. "Does it have style sheets?" Likewise, no. "How about..." Well, you get the idea. *WriteNow* may have been Mac-ish as hell, but *Word* had the power and it was power I wanted.

But, as they say, that was then, this is now. With the release of *WriteNow* 2.0, T/Maker has taken a giant step toward addressing the needs of the proverbial power user. But what's really most remarkable is not just the many new features, but the fact that they're contained in an application smaller than some desk accessories and not much more expensive. The application takes up 102 K and can be had most places for little over a C note. *WriteNow* 2.0 is virtually a software miracle, undoubtedly the best commercial value in the Macintosh market.

All of which isn't to say that the hard core power user will want to discard *Word* and buy *WriteNow*. If you need automatic indexing or table of contents generation, stick with *Word*. If you plan to make heavy use of style sheets for formatting text in a document, *Word* will do a better job. You can't sort lines of text in *WriteNow*, and it doesn't have sophisticated outlining capabilities (although *Word*'s are none too great either). But all in all, *WriteNow* offers enough power and flexibility to satisfy all but the most demanding user. And, yes, it is definitely more Mac-ish.

Being more Mac-ish, of course, gives *WriteNow* an edge over *Word* in offering the beginner an easy learning experience. Keyboard commands are more in line with the Macintosh standard—no shift/command/key maneuvers, just command/key, and no esoteric command sequences for selecting all the text in a document or creating a page break. Ease of use is certainly one of the major strong points of this word processor. Virtually all the commands are right there under the menus. The only dialog boxes to mess with are related to Check Spelling (which is excellent), Find/Replace, Count, and Change Case. And looking under the menus can leave you with the misleading impression that this application doesn't offer anything more than *MacWrite*. Nothing could be further from the truth.

What's really most remarkable is not just the many new features, but the fact that they're contained in an application smaller than some desk accessories and not much more expensive.

The New Now

Old-time *WriteNow* users will be happy to learn that the new version supports cursor keys. In addition, Undo, Cut, Copy, and Paste commands have keyboard equivalents that work on the Extended Keyboard, and Home, End, and Page Up and Page Down keys on the Extended Keyboard are supported. *WriteNow* does some more things, too, like count all the letters, words, and paragraphs in a file, provide optional fixed line spacing to enhance the appearance of a document, give you up to four WYSIWYG columns, make case changes, and make global text formatting changes. Business users will find *Word*–compatible Mail Merge with conditional selections a very useful addition to *WriteNow*. It was partially the absence of mail merge capability that kept *WriteNow* from making much headway into business markets, but with the addition of this feature business users should find the application very suitable.

A Matter Of Style

Does the new *WriteNow* have style sheets? Yes and no; it has Style Sheet Equivalents. While I found these Equivalents quite useful and easy to use, I can imagine cases where the more powerful style sheet capabilities in *Word* would be more efficient. But since many individuals can quite happily live to the end of their days without seeing a style sheet, I would say the Style Sheet Equivalents in *WriteNow*

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are more than adequate for most people. If you need to make consistently heavy use of style sheets, incorporating three or four different formats in lengthy documents, you may want to opt for the more powerful capabilities of *Word*, however.

Style Sheet Equivalents consist of three basic capabilities: copying and pasting the ruler, making global font, typeface, point size, and paragraph changes, and setting document default values. Copying and pasting the ruler is useful for taking the paragraph formatting of a previous paragraph and using it to format a new paragraph(s). If you're using several formats in a long document, however, it can be clumsy scrolling back and finding the last paragraph with the formatting you want, then forward again to the new paragraph(s). It can become more awkward still if you also want to make typeface and font size and style changes, as there is no way to copy these changes along with the paragraph formatting changes.

As far as changing typefaces and font sizes and styles goes, there is no way to go from, say, 10 point Helvetica Bold to 12 point Times Roman Italic in one stroke *as you are creating a document*, when it is most useful. You can go back to a document and make a global, after-the-fact change to all text with a given typeface or font size or style, but that is a relatively less useful capability, I think. Similar global changes are likewise possible with paragraph formatting (line spacing, indents, etc.).

The last Style Sheet Equivalent sets default values. If you put a blank document titled Stationery in the same folder with *WriteNow*, each new document you create will have the margin, paragraph, and font size and style settings of that document. Slick, simple, and useful, and easy to override with the press of an Option key.

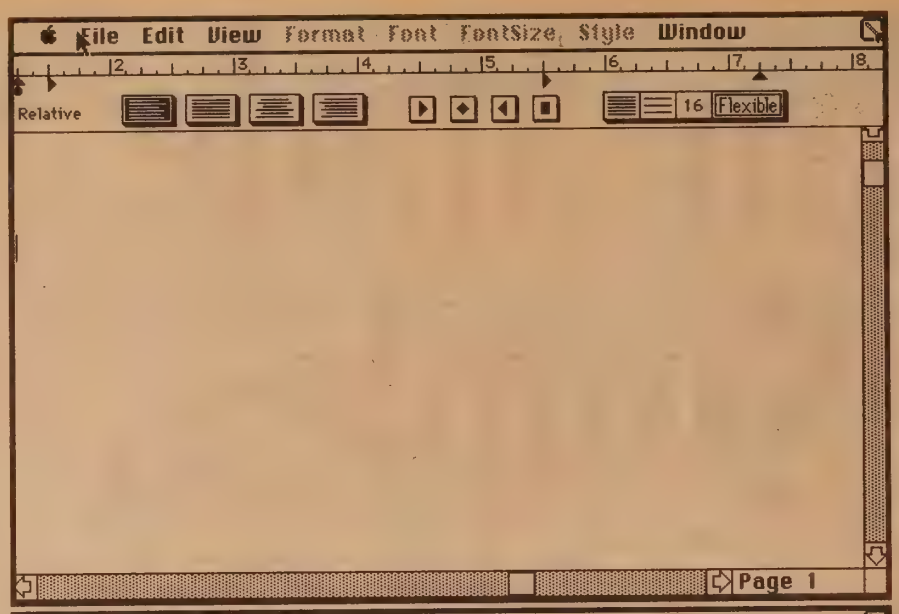
New File Formats And More

One thing you couldn't do with *WriteNow* 1.0 was easily import or export text in different file formats. With the new version you can import and export text, text with line breaks, *MacWrite* files, and RTF files from within the application. (RTF, or Rich Text Format, is the Microsoft Interchange Format.) *WriteNow* uses file filters to import and export different file formats. In the future, T/Maker plans to introduce filters for other formats. The only gripe I have with these filters is not being able to directly open a *Word* file. You must first save the document in RTF before *WriteNow* can open it. If you have *Word* files laying around that you would like to open with *WriteNow*, you'll first have to find a copy of *Word* to open them. I have been informed, however, that T/Maker is working on a new filter that will directly open Word 3.0 and 4.0 files.

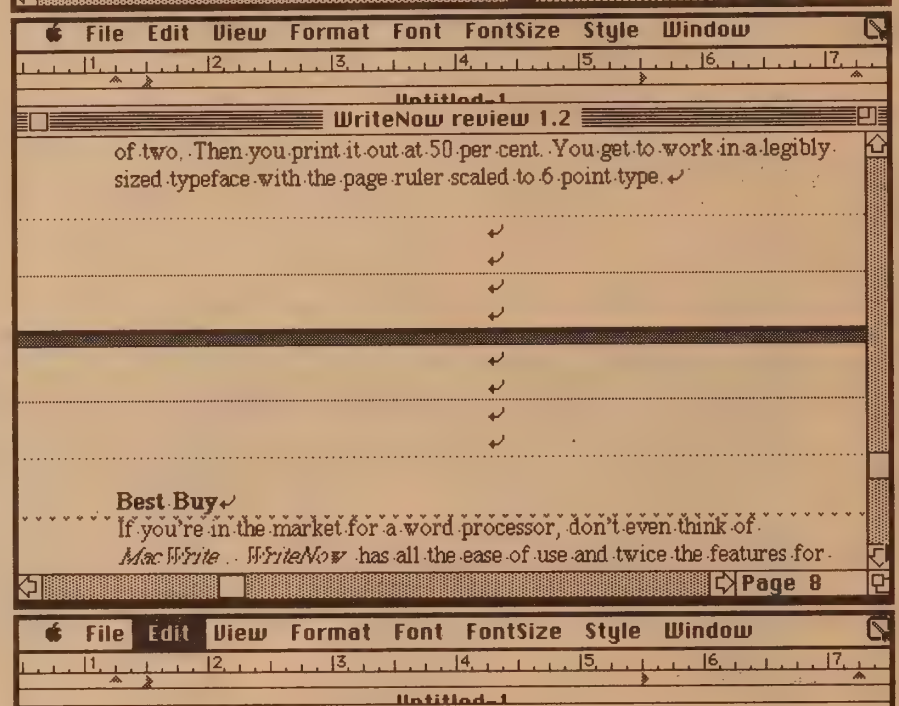
One other minor beef: In order to keep the lines of a paragraph together rather than have a single paragraph cross two pages, you have to go through the document and select the lines to keep together. I would love to see the *Word*-like feature of doing this automatically.

But from here on, folks, there is nothing but good news and praise about *WriteNow*. In no particular order, here are the things I like best about it.

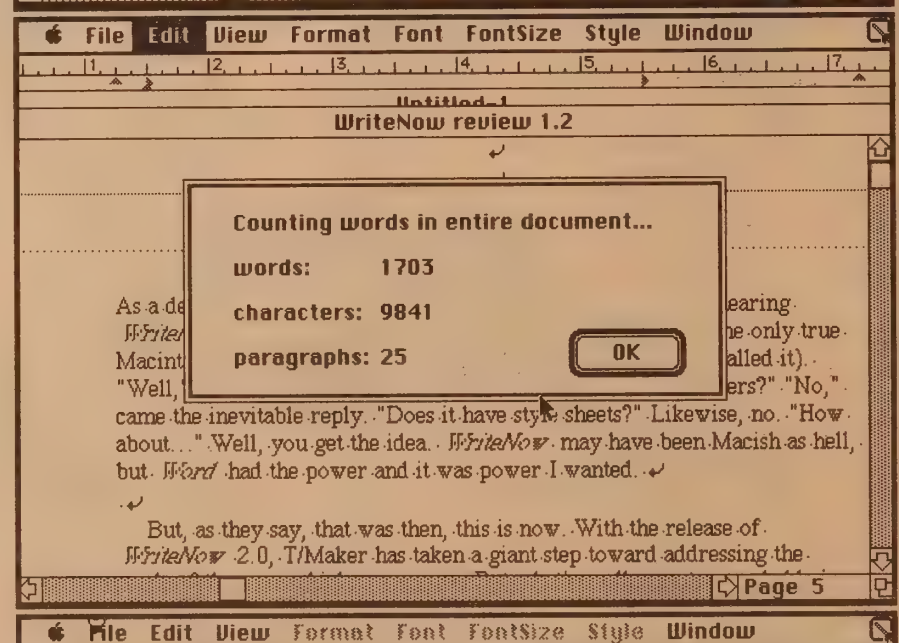
Speed: This word processor is fast. It does everything quickly, including searching and replacing text, spell checking (especially), and counting characters, words, and paragraphs. According to T/



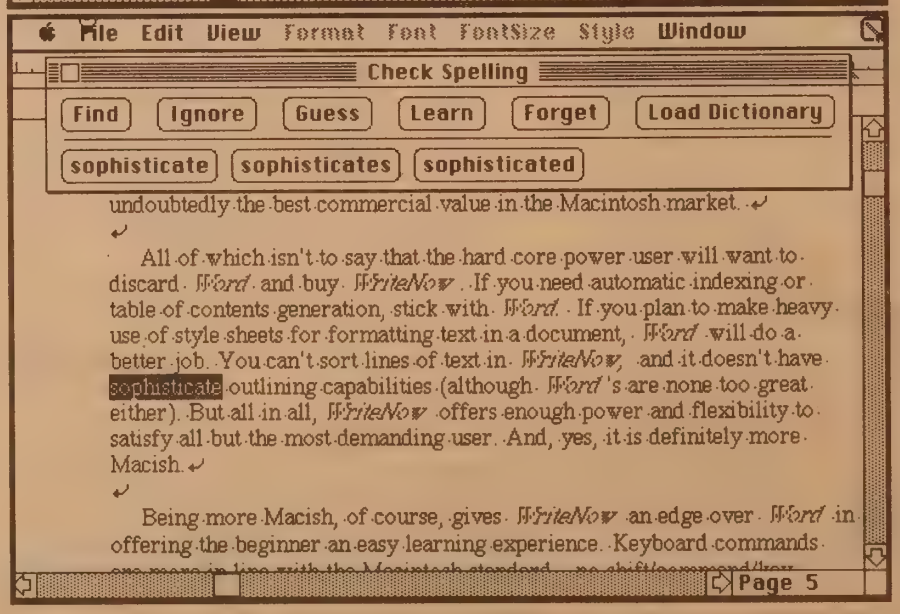
The ruler sets alignment, tab stops, and line spacing; leading can also be adjusted, and rulers can be copied and pasted from one paragraph to others.


File Edit View Format Font FontSize Style Window
WriteNow review 1.2
of two. Then you print it out at 50 per cent. You get to work in a legibly sized typeface with the page ruler scaled to 6 point type.
Best Buy
If you're in the market for a word processor, don't even think of MacWrite. WriteNow has all the ease of use and twice the features for
Page 8

The WriteNow window displays an actual break between pages. A Show Space command shows paragraph breaks, word spaces, and page margins.

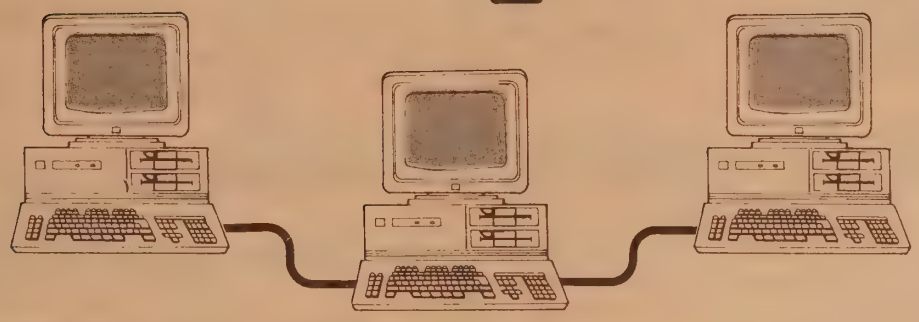


A real plus in WriteNow is the ability to get an exact word, character, and paragraph count quickly.



Check Spelling is very fast and intelligent. Unlike Word, several suggestions are often given for misspelled words.

Lan Made Simple...



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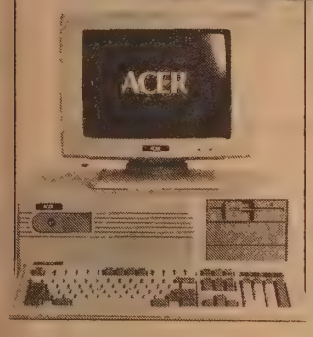

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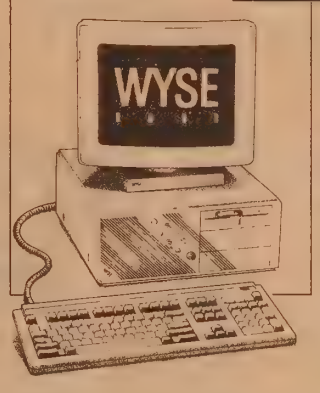

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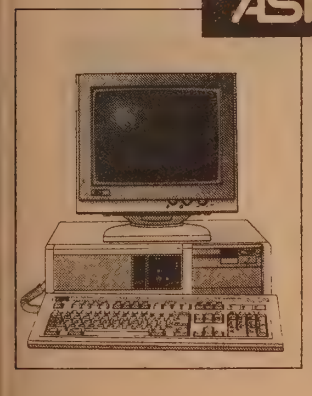

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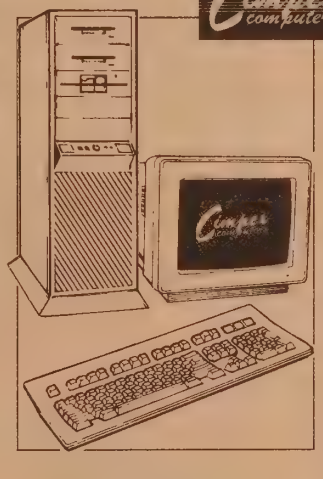

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Maker's measurements, at least, *WriteNow* is considerably faster than virtually anything out there including *Word*. It's speed is all the more impressive when you consider that it paginates as it goes along. *Word* waits until you print or use Page Preview, or deliberately paginate the document.

Spell Checking: *WriteNow* has an excellent and exceedingly speedy spell checker. A 50 thousand and 100 thousand word dictionary are provided, as well as an empty dictionary for specialized use. The spell checker offers very intelligent suggested spellings for misspelled words, and often offers more than one of them at once. Each word appears in a button you click. And you can make *en masse* additions to any dictionary by simply selecting an entire text file and having the spell checker learn it.

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If you're in the market for a word processor, don't even think of MacWrite. WriteNow has all the ease of use and twice the features for little extra money. And if you're contemplating Word, think long and hard about the extra money you would spend.

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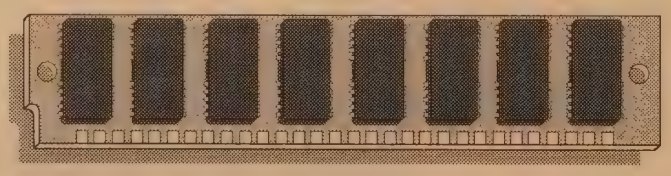

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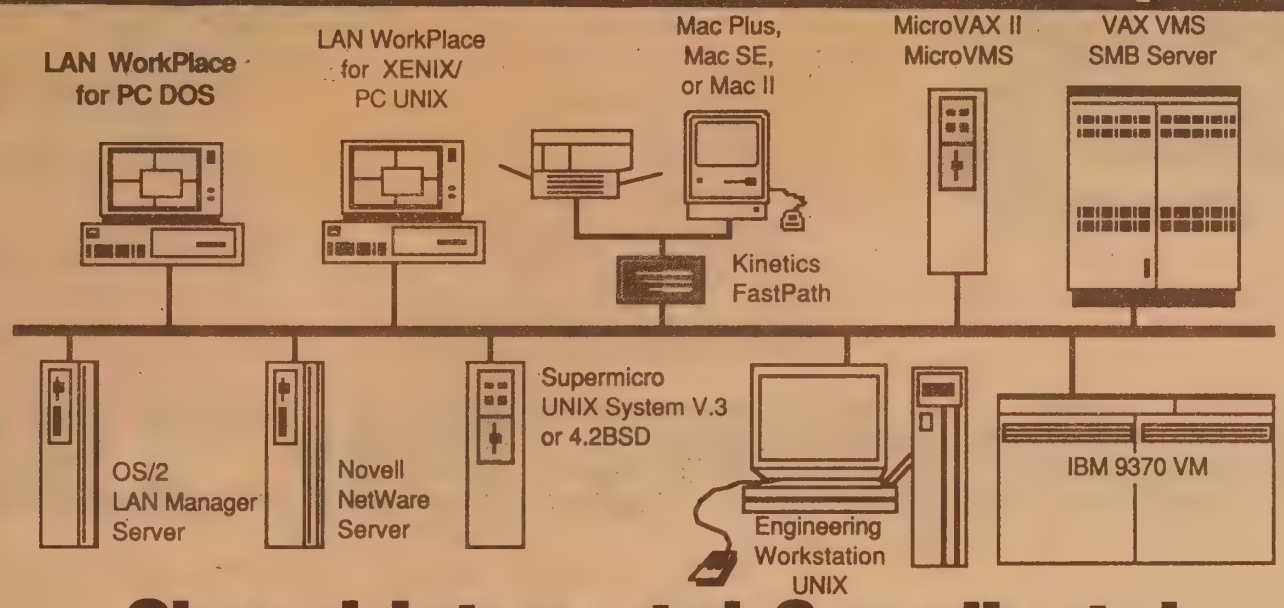
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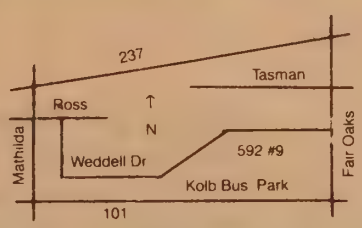

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BMUG

BY DAVID MORGENSTERN

Predictions For 1989

With the many year-end holidays, parties, and finals, the regular BMUG meeting gets a few weeks' rest. The fun simply moves over to the Bulletin Board. Here's the prognostication of some BMUGers:

Bernard Aboba
(BMUG Board member).

I predict we're in for a substantial recession in the computer industry, which will be recognized within the next six months. The prices of RAM, large monitors, and 386 clones will all go down quite a bit. Apple will **not** reduce their prices, even when RAM prices decline, so that by the end of next year the cost of the high-end Macintosh will be more than double that of a 386 clone system, despite the clone being at least 50 percent faster.

I predict that Microsoft *Windows* will gather substantial momentum, with *Windows 386* really taking off. By the end of next year, *Windows* will have programs that are superior to anything the Mac has to offer. The IBM PC will get a very good *HyperCard* clone, and Apple will sue or threaten to sue.

NeXT will require yet another capital infusion before the year is out, and sales of the Cube will be slow.

Apple will introduce at least one more incompatible bus for the Mac line, and will produce yet more buggy system software, further undermining their credibility with developers. System 8.0 will either not work very well, or will not offer the benefits that have been attributed to it. Not many people will want to pay for the hardware upgrades that will be required to run it. The "connectivity push" will be recognized as a dismal failure.

Apple will lose additional momentum. By the end of the year, third party vendors will be in control of the printer and device driver market, the monitor market, QuickDraw fixes, *HyperCard* clones, and other Mac hardware and software, which were formerly under the sole control of Apple. Apple will become almost as irrelevant to the Macintosh as IBM is now to the PC.

Steve Costa (BMUG Technical Director and HelpLine Guru).

One thing that I know is that AppleTalk 2.0 will be out late next year and will run at around 1,000,000 baud.

John Heckendorn
(BMUG Political Theoretician and Director of Product Evaluation).

Before the end of the year, Sun will come out with a desktop machine priced under $4,000. It will include a moderately user-friendly UNIX, MS-DOS available via software or hardware, a 100meg drive, Ethernet, and other goodies, aimed straight for (no, not NeXT, but...)—I Betcha Money. Oh, yeah, the thing will roar at about half again the speed of the PS2 Model 80.

If NeXT operating system software, version 1.0, is released on schedule (second quarter '89), sales to universities during the Fall buying season will be brisk; if late—underwhelming. If a color NeXT is demonstrated by August—and upgrades for existing machines are available at less-than-heart-stopping prices—look for the orders to start piling up. Informix will announce a NeXT version of WINGZ.

The new version of *4D* will offer not only more speed and programming power, but ACIUS (or someone else) will offer a utility which will directly read *dBASE* files.

The release of QuickDraw2 will create a leapfrogging of visual display competition between itself and *Display PostScript,* similar to what has happened between *Illustrator* and *FreeHand.*

Apple will acquire a company that is a major player in an area completely unrelated to Apple's current perceived product directions.

And finally, I predict that a year from now, everyone will predict the **following** year to be the Year of the LON (Local Operating Network).

Stephen Howard
(BMUG Board member).

In 1989, Macintosh users, like their PC-using counterparts, will unfortunately need to understand the terms *megahertz* and *wait-states.*

David Morgenstern
(BMUG Cheerleader).

A disgruntled Apple programmer will write a time bomb into the new System software. It will not cause any data loss, but will change any iteration of "Apple" into "A——le."

Todd Rundgren's alternative Mac operating system will be the first of a long list of "Celebrity Finders." Expect announcements from Harry Anderson (*Night Court*), Peter Jennings (*ABC News*), and Joan Collins (you need to ask?).

John Sculley will leave Apple for a post in the Bush league. He will bend over backwards to appear fair, so computer contracts (low bids all) will go to 386 clones. He will continue to use the Mac II "brought from home."

New input/output gizmos sold in kits will bring unthought-of power to the home user. Truth detecting vocal-stress analysis kits will lead many Mac households to divorce court. The *Home Hemotology Lab*, *MacPerm*, a hair chemistry set, and *MacStudFinder* will be money makers. *Tattoo Artist,* an automated color-output device, and *Buzz Me Again, Pavlov*, a habit-breaking aversion-therapy set (does that name ring a bell?), will come up short in the marketplace. The Department of Defense will pull the rug out from *StarWars Mac*, a flying insect destroying system.

The computer industry will rock with the revelations that a predominantly PC software publisher had been writing and distributing Macintosh vi-

BMUG NewsTip:

Have you been saving your pennies, hoping to buy some brand new 4 meg chips for your Mac? We've got some bad news—they don't fit! When Toshiba showed the prototypes to Apple a year or two ago, they fit. The chips must have been hitting steroids, because now they're "too fat" to fit in a Mac (even a Mac II). Start saving for a machine that will fit the chips.

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- ☐ 3 **PC-Calc+ (1130-1132)** - One of the most powerful and complete spreadsheet packages available. The features include the ability to import 1-2-3 files. (3 Disks)
- ☐ **Small Business Accounting System (1141)** -All small business owners need this one.
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- ☐ **PC-Stock (1124)** - Tracks your stocks and charts the trends. (CGA)
- ☐ 2 **PC-Write (1600, 1601)** - This word processing system is one of the most popular because of its many features and ease of use. (2 Disks)

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- ☐ **PianoMan (1902)** - Record, edit, and then play back your favorite tunes. Also turns the keyboard into a musical instrument ?!

GAMES

- ☐ **Striker (1400)** - Arcade helecopter attack game. Bomb and shoot enemy targets. (CGA)
- ☐ **Baseball (1415)** - A strategy oriented approach to the great game.
- ☐ **Q-Bert (1403)** - Play the famous arcade hit on your computer. (CGA)
- ☐ **Backgammon (1404)** - Play against the computer. Centipede is also included. (CGA)
- ☐ **Monopoly (1405)** - Great color and sound. (CGA)
- ☐ **JetSet (1407)** - A great jet flight-simulator.
- ☐ **Infiltration to IBM (1417)** - In this text-adventure game, you are a secret agent.
- ☐ **RISK (1436)** - For all of us who love the great board game. Conquer the world! (CGA)
- ☐ **PacMan & More! (1421)** - Several arcade hits including two PAC-MAN games. (CGA)
- ☐ **Wheel of Misfortune (1422)** - A really fun version of the classic TV gameshow.
- ☐ **Master the Market (1425)** - A stock market simulation game. More options and better all around play than the popular "Millionaire" game.
- ☐ **Kid Games (1426)** - A set of educational games designed to teach kids in a fun way.
- ☐ **Super Pinball (1429)** - A collection of five great video pinball games. (CGA)
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- ☐ **Video Poker/Ultima 21 (1435)** - The BEST poker and blackjack games available.
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Note: (CGA)=Requires Color Graphics Adapter

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EDUCATION

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- ☐ **Typing Tutor (2108)** - It's easy to improve your typing skills with this excellent tutor
- ☐ **Bible Pursuit (2110)** - Great Bible trivia game

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- ☐ **Disk Utilities (2202)** - Disk and file recovery tools that everyone should have—just in case!
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CREATIVITY

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GAMES

- ☐ **Football (2700)** - Be a computer-desk quarterback
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ruses. Those involved will claim that the viruses were "programming exercises" in preparation for work on a new Mac spreadsheet.

Kudos And Menudos: The Sequel

Last month we started a list of the past year's best of the worst—and we didn't have space for everything.

• **Best SoftWare Guilt Trip.** *The Manhole* by Activision/Mediagenic. So you spent the family's next four year's vacation money on the Mac? You'll make it up to "the littlest Mac user" by buying *The Manhole*, a fantastic non-violent educational game (if you can sell that to your family and you're not in sales, it's career change time). The little kids **love** it, but there's a problem. The stacks that make up the game total almost five megabytes of precious hard-disk space. That's almost 25 percent of your 20 meg drive. There's no good solution other than mortgaging another year's vacation and buying a hard-disk just for the kids' toys.

• **Best Divide and Conquer.** *Silver Server* Utilities by LaCie, Ltd. LaCie makes the Cirrus line of hard-disks. Although the Cirrus is advertised as "Performance without compromise," the best reason to buy the drive has been the bundled utility programs, called *Silver Server*. The *SilverLining* program is considered one of the better SCSI formatters around and available only to Cirrus owners. Finally, LaCie got smart and now sells the software separately (for a hefty $150).

• **Best BMUG Beta Demonstration.** *Steve Jobs*, NeXT, Inc. What a fantastic show Jobs orchestrated at a BMUG meeting in November—the first public demonstration of the NeXT computer. Although thoroughly scripted and packaged, it came out fresh and informative. It even survived an audio-visual presentation (slides and video) which usually turns the technically hungry BMUG crowd ugly. The referees at a heavyweight title fight customarily give the benefit of the doubt to the current champ.

This prize often goes to Guy Kawasaki, when he shows the new features that will be incorporated into the next version of the *4th Dimension* database program. He gives a very clever funny demo, filled with inside jokes and anecdotes.

• **Best Software Closet Skeleton.** *Modern Jazz* not by Lotus. Lotus finally stopped flushing money down the toilet and yanked the release of *Modern Jazz*. It was **very** close to release and some poor author had even written a book on the program. Lotus hasn't learned anything from its Mac fiascos, since they're reportedly banking their future on a Mac version of *1-2-3*.

What's In A Name?

Last episode, as I was mentioning that the word *Floptical*™ is owned by drives made by Insite Peripherals, I made another mistake. The NeXT non-floptical drive is not made by Toshiba, but Canon. I knew it was one of the giant Japanese dumpers.

Most of the time the call goes something like this: "I tried to print my document. The little watch cursor's on the screen, but nothing is happening. I've only been working for a couple of hours and haven't saved at all. Can I get back my work?" Sorry.

New Year's Resolution: SAVE

It was finals time last month. Many unhappy people called up the BMUG HelpLine. Some of them left the HelpLine still sad, because it's hard to save what you don't **Save**.

Most of the time the call goes something like this: "I tried to print my document. The little watch cursor's on the screen, but nothing is happening. I've only been working for a couple of hours and haven't saved at all. Can I get back my work?" **Sorry.**

The Mac screen is so sharp and clear that our over-taxed brain is fooled. We think we're typing away on a solid, 3-D piece of paper. There are no ideas, words, or pages until you **Save** your work. Here are some time and data saving suggestions:

• **Save often.** You can't **Save** often enough. I try to

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Save every few minutes or sentences. Some people claim this ruins the flow of their thoughts—maybe so, but so will losing all your work!

I'm allergic to many things in the world and unconsciously scratch, I guess, so my hands leave the keyboard. I **Save** and scratch my way though the document. If you can't remember to **Save**, perhaps an auto-saving desk accessory like *Savior+* (BMUG DA 1 disk) may be for you.

• **Always Save before you Print.** Printing is a time when a lot of things can go wrong. Memory problems, disk space requirements, or lots of other baddies can bring you grief. Some programs allow you to stop printing by holding down the **Command key** and pressing the **period** (.).

• **Do a Save-As for important work.** If you're doing crucial and irreplaceable work on a deadline—think paranoid. Every once and a while Save **As...** to a floppy. If your hard-disk dies in the middle of the project, you can continue immediately with the floppy.

You think I'm nuts about this? The power went out on our side of the hill as I wrote this (for real, I swear) and I only lost two sentences. Would you have been so lucky?

BugMaster

Have you ever found a bug or error in Apple hardware, software, or documentation? If you haven't then you've been the luckiest Mac user alive. Five years after the introduction of the Mac, Apple has decided they'd like to hear about bugs.

They've developed a program that connects us to their "Bug Report Center," called *Outside Bug Reporter*. The data is fed into a bug database for the Software Quality Assurance folks. There are plenty of bugs for everybody. Request a copy from Craig Polson, Bug Report Center, Apple Computer, Inc., 10500 N. De Anza Blvd., M/S 27-AN, Cupertino, CA 95104.

Virus Warning

Some new viruses have been floating around the past couple of weeks. There are a couple of new strains of the *nVIR* virus. One is called *Hpat*, since it installs *Hpat* resources in your system, instead of *nVIR*.

INIT29 is a new virus that screws around with applications and adds an ID 29 to all other files. This virus "features" instant infection upon disk insertion—clever, but very bad to you and me.

Now that viruses are big business, many of the free and shareware anti-virus programs are going for the green in the over-the-counter market. We're talking $100+ for these new versions.

Jeffrey Shulman's *VirusDetective* DA is still shareware. A new version (2.0) will be out soon (BMUG Utilities 8 disk). Support your shareware authors! ■

Upcoming Events

January 26: Interleaf *Publisher* (DeskTop Publishing stuff), MicroSeeds *Redux*.

February 2: Scott Wiener of Ashton Tate (*FullWrite* programmer), Farallon Computing's New Stuff.

February 9: Meeting at NorthGate Hall. Carina Software *Voyager* (Astronomy), Ceres Software, *Inspiration* (Idea Processor).

February 16: Meeting at NorthGate Hall. Dayna Communications *DaynaFile*, Electronic Arts Stuff.

What Is BMUG?

BMUG is a non-profit educational corporation promoting the exchange of information. Like any growing organization, it is many different things to its 6000+ international membership. BMUG, Inc. is a computer user group located in Berkeley, California. The group specializes in computers using a graphical interface. For a while that meant the Apple Macintosh™ but now includes other makes, models, and operating systems, including the NeXT best thing. BMUG supports many Special Interest Groups (SIGs), a five-line BBS, help-line, software library, weekly meetings, and much more. BMUG also puts out a semi-annual 400+ page book that we call our "newsletter." Our motto continues to be: *We're in the business of giving away information.*

BMUG has one of the most up-to-date, comprehensive software libraries around with 300+ double-sided disks filled with the latest versions of public domain or shareware programs and *HyperCard* stacks. New disks are unveiled almost every week at the Thursday general meeting.

Our BBS offers many of the latest versions of files in our software library as well as news, private mail, rumors, etc. The BMUG BBS is part of the worldwide EchoMac Network on FIDOnet; by calling a local FIDOnet BBS in your area, you would then be able to get in touch with us wherever you are as well as send mail to users everywhere! BMUG is now a part of the international USENET network. With our multi-line capability you are now be able to have access to BMUG almost 24 hours a day. It's easy to use, fun, and a great resource.

To get some further information about BMUG please write to: BMUG, 1442A Walnut Street #62, Berkeley, CA 94709. If you prefer to phone our business office call (415)549-BMUG.

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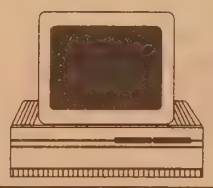

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MAC-PC CONNECTIVITY

BY ROBERT BEAUCHAMP

Database Connectivity

If Hepburn And Tracy Can Do It, So Can You

If you have cable TV, you might have caught the movie *Desk Set* over the holidays. Starring Katherine Hepburn and Spencer Tracy, *Desk Set* is about the introduction of a computer into the lives of a group of women who work in the research department of a television network.

Replete with horn-rimmed glasses and sweaters thrown over their shoulders, the "girls" are ready to answer any question; from "what's the weight of the Earth?" to the names of Santa's reindeer. They rush off to their stacks, dig through an extensive collection of reference material, and produce an answer.

Katherine Hepburn's pride is her prodigious and infallible memory. Spencer Tracy's pride is his new computer, which he has been assigned to install in Hepburn's department. The fear of losing her job to a machine gives the silver screen's two most famous Lovers/Combatants another chance to go at one another.

What makes the role of the computer interesting in this movie is the use to which it's being put. It's not a gigantic number cruncher, giving the estimated time of impact of some science-fiction rocket ship. It's a database.

I was so inspired by this movie that I decided to devote my next two columns to databases and connectivity.

This column will devote itself to sorting out all the database file formats.

Next month I'll talk about an application which takes connectivity to a higher level. *FoxBASE+* not only allows you to import files created in a different environment, Mac to PC for example, it also allows you to transfer the database *programs* you've written from one environment to another. This significant step toward groupware should not be left unnoticed, and others should be encouraged to take it.

Transferring Database Information

There are three ways to transfer your database information from one environment to the other. The first is to simply take the *information* in your database and place it somewhere else. The second is to take *the database itself* and move it to another environment. The third is to actually take programs you've written *using the database* and place them in a new environment, as you can with *FoxBASE+*.

Transferring the information in your database from one environment to another, or from one program in the same environment to another, can be fairly easy. Applications such as *MacLink Plus*, *LapLink Mac* or Tops contain file translators which will take existing file formats and change them into something you can use to import information into another program. They also, of course, aid you in actually getting that file onto the other computer.

Many database applications will also include utilities that save your information into one of these file formats.

The file formats most commonly used for this type of operation are CSV, DIF, SYLK, WKS, and assorted ASCII text formats.

For example, by taking a *dBASE* file from the PC and translating it into a WKS file, you can move the information in the database to an *Excel* spreadsheet on the Mac.

CSV stands for Comma Value. The CSV file format has ASCII text records with commas separating all values. Double quotes surround all text values, and there is a carriage return at the end of each record. It is usually a good way to transfer data from an existing database into a newly created one, because the format of the values within each record matches the format specifications from the original input file.

DIF is a very common format that doesn't contain format specifications. It takes the ASCII text records and put the values in a row and column grid.

SYLK is a format used primarily by *MultiPlan*. It contains spreadsheet formulas and formats.

WKS is the file format of *Lotus 1-2-3*. It is used by most spreadsheets, notably *Excel* and *Jazz*.

What file format you choose to use will depend on a combination of what translators you have, what the database application you are using will import, and what file formats your old database will export.

Oftentimes the process isn't as easy as just translating the file and importing. As anyone who has done this knows, there are often a lot of "loose ends" to take care of. Extra or unreadable characters, disappearing information, and the loss of formatting are all problems encountered on a regular basis. A well documented application should have an entire section on translating files.

Translating Databases

There will be times when you'll want to transfer an entire database into another format and keep the database's structure along with the information. You'll have varying degrees of success in doing this, depending on which database application you're trying to export to.

Many databases, mostly on the Macintosh, will simply not allow you to do this. Borland's *Reflex Plus* and Acius' *4th Dimension* stand out most prominently in this category. You can import database information into these applications, but only after you have created the new database in the chosen application, and imported the necessary information in a file in an acceptable file format.

4th Dimension will import Text, SYLK, DIF, and several other file formats. The *dBASE* file format is not among them, however. *Reflex Plus* has the best documentation on file exchange I've seen in any application. You'll need it, however, as you do the necessary "massaging" to get that information into your new database, especially if you're an *R:BASE* user.

To best translate an entire database you'll need to use that old standby: *dBASE*.

Databases created with *dBASE II* and *dBASE III Plus* on the PC will transfer to *dBASE Mac*.

Conversely, files databases created with *dBASE Mac* will transfer to *dBASE*. The format name for files created with *dBASE Mac* is DBF. Any Macintosh application that will accept a DBF file should take a *dBASE Mac* created database.

In the PC realm, the *dBASE* format is the most widely recognized of all the database file formats. Unlike the Mac world, many PC database applications strive for *dBASE* compatibility. What they are offering are special features not found in any of *dBASE* 's incarnations. If databases created with these applications can be saved in the *dBASE* file format, then *dBASE Mac* would be a good tool to get those databases on your Macintosh.

This doesn't mean, however, that *dBASE* and *dBASE Mac* are the ultimate connectivity solution, as *FoxBASE+* has them beat hands down in this arena. It simply means that if you are concerned about connectivity and you have *dBASE* in both PC and Mac environments, you could have been a lot worse off.

Of course, the best connectivity solution I've seen lately was in the prophetic *Desk Set*. A brusque computer scientist (back when computer scientists were portrayed as brusque, not nerds) and a beautiful, smart reference clerk (back when women could be portrayed as both beautiful and smart, *and a reference clerk*) get together to learn the golden rule of programming: garbage in equals garbage out. And as any MIS manager will tell you, computers create jobs, they don't eliminate them.

Who says there's no romance in databases? ■

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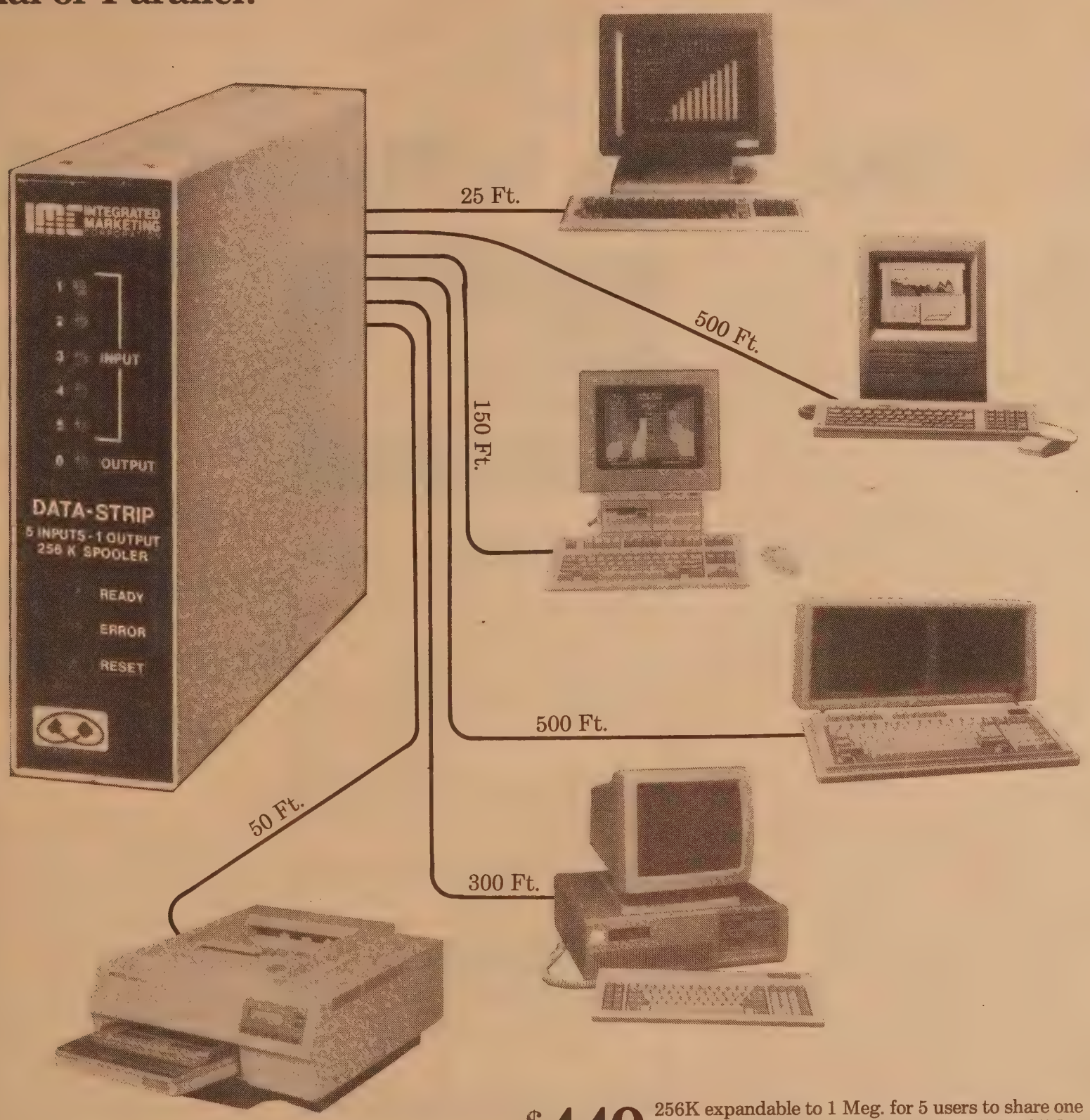

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HYPERCARD

BY BIRRELL WALSH

The Bible In HyperCard

When I was studying linguistics, I was always impressed by the translation work of Protestant missionaries. No matter how small the tribe, a missionary had translated the Bible into their language. Sometimes the Bible was the only printed document in the tongue. And the Bible seemed to be available in every medium: print, phonograph records, microfiche, tape.

Well, they've done it again. Beacon Technology is a group of skillful Christians who have put the *entire* Bible into *HyperCard*. If you have about 15 megabytes on your hard disk, you can have it too.

In *HyperBible*, the Bible ("Bibles," actually—the King James Version and the New International Version are both available) is presented to you verse by verse, or chapter by chapter. Each verse is accompanied by cross-referencing information. Hypertext is an ideal medium for Bible research—the Bible has surely been analyzed more than any other written document. The *HyperBible* system makes use of one of those thematic indexes, the Thompson Chain Reference system, to connect the verses to one another.

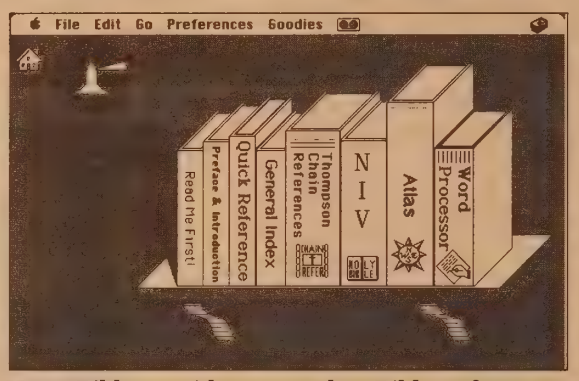
I wanted to find a phrase I had heard once about visions and dreams, so I looked up the word "Dream" in the General Index. In a few moments of research in the *HyperBible* index I was able to find the phrase in Joel 2:28: "And afterward, I will pour out my Spirit on all people. Your sons and daughters will prophesy, your old men will dream dreams, your young men will see visions."

With it were references to dreams and visions throughout the Bible. It took no more than 10 minutes to find dozens of verses in Genesis alone which referred to dreams. One of them was the dream of Jacob at Bethel, in which he saw angels going up and down the ladder to heaven. That led me off to two additional resources that Beacon has provided.

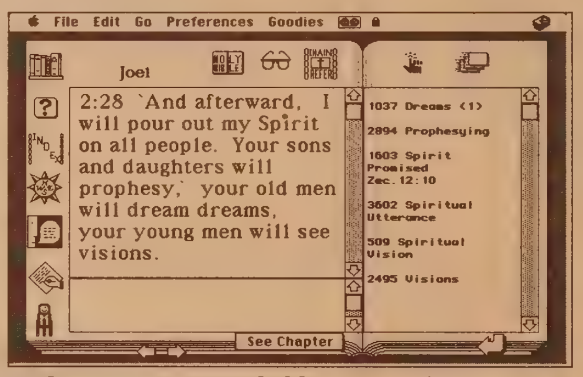
And just where is Bethel? There is a set of maps of Palestine with automatic marking of locations. I asked the Atlas to show me the location of Jacob's dream, and a flashing button showed me a site a few miles north of modern Jerusalem. There are maps of Palestine in biblical times, and of the Mediterranean world at the time of Paul's missionary journeys. (I have always wondered where "The Church at Philadelphia" was. The Atlas showed me—it was in Asia Minor, part of modern Turkey.)

There is an archeological supplement as well, with information about digs at biblical sites. I suspect that this information is out of date, since digs at biblical sites are a national hobby in Israel. As far as it goes, though, it is a valuable addition to the text of the Bible itself.

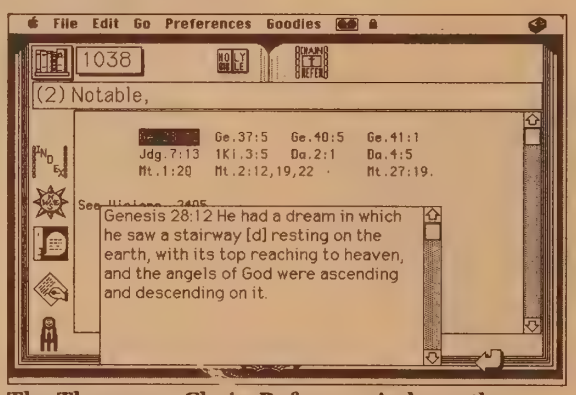
You can leave messages, comments, praise, and blame for stackware and HyperCard *on the WELL (415-332-6106; user ID "birrell") or CompuServe (User ID 72466,3567) or by US Mail to:*



HyperBible provides a complete Bible, reference tools, and an Atlas.


File Edit Go Preferences Goodies
Joel
2:28 `And afterward, I will pour out my Spirit on all people. Your sons and daughters will prophesy, your old men will dream dreams, your young men will see visions.
1037 Dreams (1)
2894 Prophesying
1603 Spirit Promised Zec.12:10
3602 Spiritual Utterance
509 Spiritual Vision
2495 Visions
See Chapter

Each verse is surrounded by cross-references and tools for the researcher.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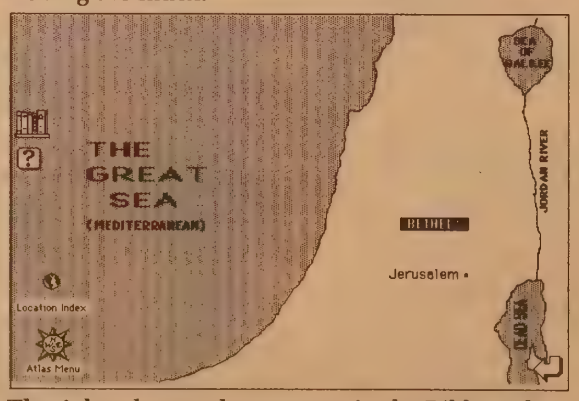
1038
(2) Notable,
Ge.37:5 Ge.40:5 Ge.41:1
Jdg.7:13 1Ki.3:5 Da.2:1 Da.4:5
Mt.1:20 Mt.2:12,19,22 Mt.27:19.
Genesis 28:12 He had a dream in which he saw a stairway [d] resting on the earth, with its top reaching to heaven, and the angels of God were ascending and descending on it.

The Thompson Chain-Reference indexes the Bible by themes. You can see verses without leaving the index.



The Atlas shows where events in the Bible took place.

Hypertext is an ideal medium for Bible research—the Bible has surely been analyzed more than any other written document.

HyperBible provides a number of tools for researchers and sermon-writers. It allows you to mark verses for export to your word-processor. I collected all the verses about dreams onto the clipboard and moved them to *MacWrite* with little difficulty. There is also a facility to launch your word processor from within *HyperBible*, but I could not get it to work properly. Not a major issue under MultiFinder, but annoying.

There are a number of other features. There are lists of "Golden Chapters," and favorite topical quotations. There are supplements on Jewish holidays and Old Testament weights and measures. The *HyperBible* is a major tool for ministers and theologians who work with the Bible daily. A church which has a Macintosh and a hard disk should just go ahead and buy it. ■

HyperBible

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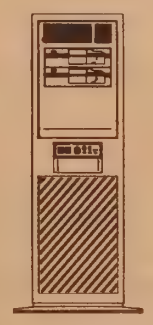

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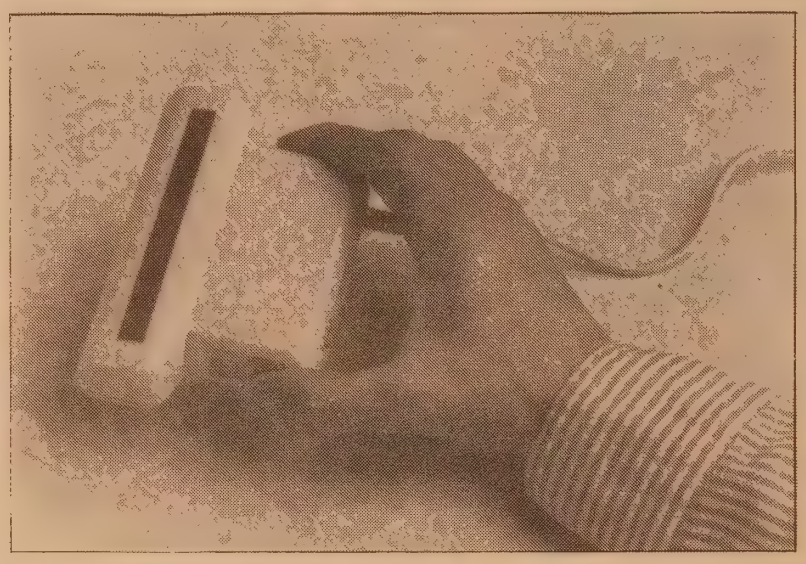
Pinnacle Introduces Erasable Optical Disk System For Macintosh

Those who have been waiting for an erasable optical disk drive need wait no longer—the REO-650 holds 650 Mb of data that can be erased and rewritten over a million times. Data is stored as submicroscopic bits in the surface of the disk media. A low-powered beam of light is used to erase, record, and read the random access data. The REO-650 uses removable media. ($5,995) Pinnacle Micro, Inc., 15265 Alton Parkway, Irvine, CA 92718. (714)727-3300.



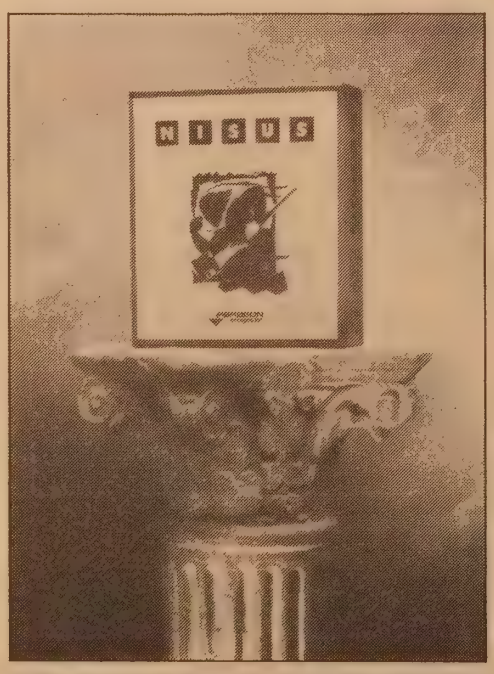
Makers Of ThunderScan Produce Hand-Held Scanner

Thunderware has introduced a hand-held scanner that transfers images up to 4 inches wide at resolutions of 100, 200, 300, and 400 DPI to a Mac Plus or better. LightningScan supports three unique dithering patterns as well as a line art mode. Brightness is adjusted by a level control. Software for LighteningScan was written by Andy Hertzfeld and includes editing tools. Most important graphics file formats including TIFF,Encapsulated PostScript, PICT, and Paint are supported. When used with a Mac II, LighteningScan's software derives gray scale from the scanner's dithering patterns. Editing tools support 16 gray shades. ($549) Thunderware, Inc., 21 Orinda Way, Orinda, CA 94563. (415)254-6581.

Suitcase II Packs New Features

Fifth Generation
Suitcase™ II
Complete font and desk accessory liberation for your Apple® Macintosh™ computer
SUITCASE II

Suitcase II expands the resources available to the Macintosh by removing virtually all limits on the number of desk accessories, fonts, and FKEYS that can be accessed from applications, and makes beep sounds available from suitcase files. The utility makes up to 99 Font/DA mover files, or files containing FKEYS or beep sounds, act as if they were extensions of the System. Each file can contain up to 500 sizes of fonts, or 52 DAs, or any number of FKEYS or beep sounds. Two new utilities come with *Suitcase II*, Font Harmony and Font and Sound Valet. The former resolves font number conflicts, integrates font style variation families into one family to clean up menus, and converts fonts to NFNT resources as necessary to exceed the limit of 256 font numbers. The latter utility packs screen fonts and beep sounds by up to 60%, and automatically unpacks them with no processing time penalty. ($79) Fifth Generation Systems, Inc., 11200 Industriplex Blvd., Baton Rouge, LA 70809. (504)291-7221.

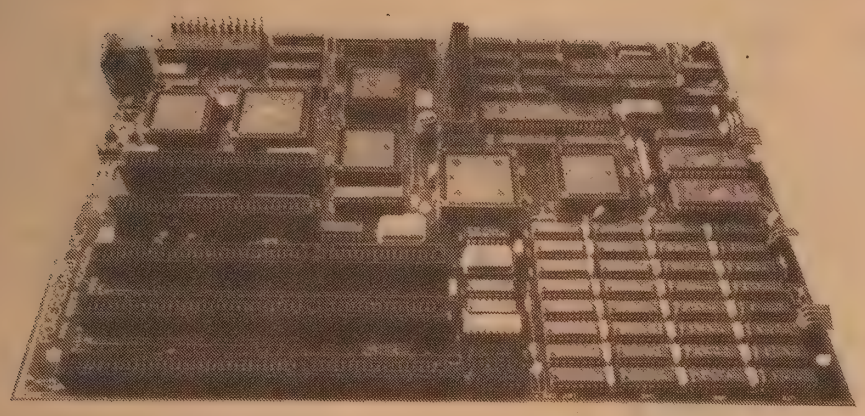


New Word Processor Zaps Gremlins And GREPs Text

Paragon Concepts, Inc. has introduced another one of those everything-but-the-kitchen-sink word processors, *Nisus*. Some of the more notable features include Zap Gremlins, which deletes extra "garbage" characters found in text imported from other operating systems. GREP (Global Regular Expression Parser), a long-time fixture of the UNIX operating system, is another, enabling the user to specify a literal or general search pattern. Find/Replace can be style and font sensitive and can include graphics. *Nisus* draws graphics directly into text and places a picture over text or wraps text around it. A macro facility allows recording, programming, and editing of macros. Macros can execute when chosen from the menu, or they can be set to execute automatically when *Nisus* starts, opens a file, or is launched from MultiFinder. *Nisus* operates on a Mac Plus or better. ($395) Paragon Concepts, Inc., 4954 Sun Valley Road, Del Mar, CA 92014. (619)481-1477.

PC buyers guide

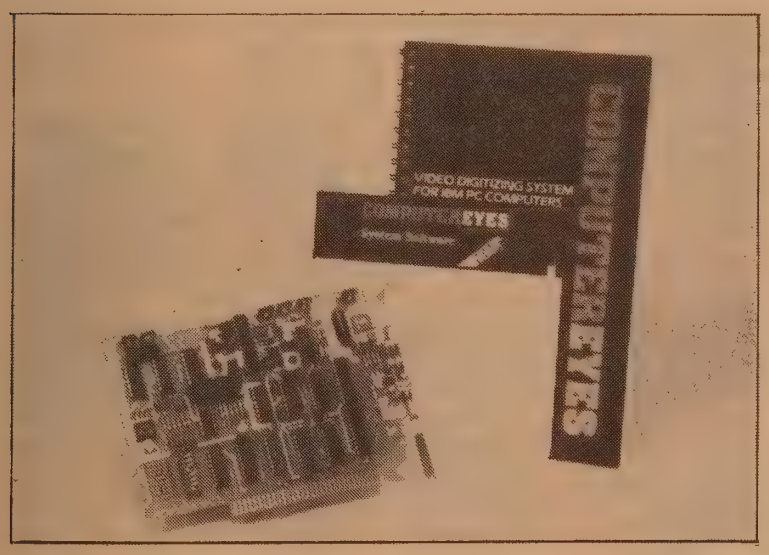
New Motherboard Gives PC Users Access To 286 Power And Speed



XT users who would like to step up to the power of a 80286 can fulfill their dream with Powersytems II, a motherboard that provides the performance and features of the PS/2 Model 60. Designed with the spreadsheet user in mind, the Powersystem II includes a proprietary on-board floppy controller and a proprietary disk caching system specifically designed to enhance *Lotus 1-2-3*. The motherboard is compatible with all IBM software, accepts 3-1/2" diskette drives as well as 5-1/4" ones, and comes with a two-year guarantee and on-call service and support. Powerboard, Inc., 3965 Research Park Drive, Ann Arbor, MI 48108-2296. (313) 668-1950.

XENIX Compatible Subsystem Provides Single-Digit Average Access Times And Multi-Gigabyte Capacity

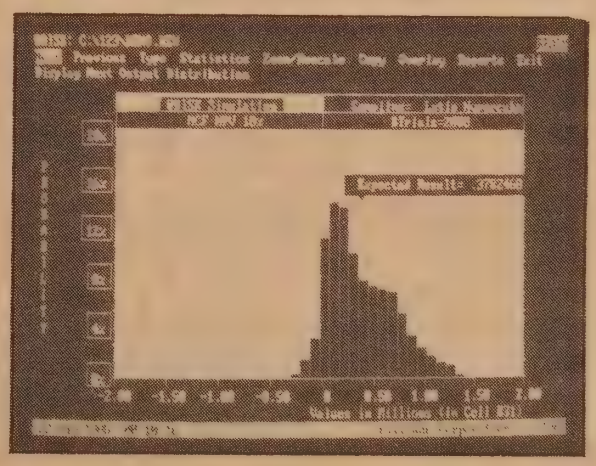
The Patrick Henry XNX line of disk subsystems provides mass storage for XENIX based AT-bus systems. It includes single-digit average access times, built-in fault-tolerance, multi-gigabyte capacity and disk-spanning. The Henry line features hardware-level disk caching up to 320Mb of RAM, resulting in average access times between 0.5 and 7 ms. Its Fault-Freedom feature provides a greater safety margin for stored data and reduces system downtime. Automatic bad-sector management reduces data corruption by reallocating bad sectors on the fly, without operator intervention. To facilitate larger systems, the Patrick Henry XNX lines supports disk spanning, allowing a XENIX partition to reach the full maximum of 4.4Gb. An integral tape backup can also be included with a capacity of 2.2Gb per cartridge. ($9,200—52,400.) 1776, Inc., 4522 Murietta Ave., Suite 700, Sherman Oaks, CA 91423, (818) 789-2004.



ComputerEyes Turns Your PC Into A Digital Camera

Ever want to use your PC as a camera? Ever want to take a real-life image and transport it in full color to your computer screen? Now you can with Digital Vision's ComputerEyes, a video digitizer that supports the color capabilities of the IBM PC or PS/2 Model 25/30. ComputerEyes allows you to use any standard video source (video camera, VCR, etc.) and display an image with the PC's standard EGA, MCGA or VGA graphics capabilities with up to 256 colors or 64 gray scale levels on-screen. A complete scan takes only six or twelve seconds, and on-screen, real-time adjustment of color is possible. ComputerEyes captures 640 X 200 video samples, 18 bits per pixel. For desktop publishing applications, ComputerEyes' captured images can be saved to disk in a number of formats including: .PCX, TIFF, Windows and GEM. ($399.95.) Digital Vision, Inc., 66 Eastern Avenue, Dedham, MA 02026. (617) 329-5400.

New Software Add-in Tells You How Much You Are At @RISK



Harvard business school is making its MBA students use this software package for risk analysis and simulation modeling. *@RISK*, a *Lotus 1-2-3* add-in, uses probability distributions and proven simulation techniques to evaluate uncertain spreadsheet models. A risk analysis in *@RISK* uses Monte Carlo type simulation in which uncertain cell values are varied across the entered probability distributions. All output results from *@RISK* simulations are displayed graphically as probability distributions by @RISKGraph. Output distributions can be displayed in a variety of formats including histograms, cumulative curves, summaries over ranges of cells and as overlays for comparison. ($395.) Palisade Corporation, 2189 Elmira Rd., Newfield, NY 14867. (607) 564-9993.

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EXPANDABLE

In addition to its eight slots the 3000A offers front access to as many as 5 half-height drives. There's plenty of room for hard drives as well as additional floppy disk drives and an internal tape drive.

MADE IN THE U.S.A. BY EVEREX

The ARGO 3000A is designed and manufactured in the USA; the system is engineered to provide superior performance and reliability. All Model 3000A computers are burned in and completely factory tested to assure complete reliability. MADE BY EVEREX.

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The ARGO 1700C has eight industry standard expansion slots, four 16-bit and four 8-bit, leaving plenty of room for expansion with memory boards, graphics adapters, I/O boards, network cards, a modem, etc. These are industry standard slots which can accommodate literally hundreds of currently available expansion products.

SPEED SELECTABLE

In order to provide compatibility with speed sensitive programs, the 1700C furnishes speed selection of 12 or 8 MHz. To make the selection as easy as possible, it can be accomplished from the keyboard or by front panel switch. To provide increased hardware compatibility the 1700C provides configurable wait states for the bus expansion slots.

A TRUE 12 MHz

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Norton SI rating*	15.3	10.1	11.5	11.5
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The A/UX Toolbox: A Kantian Approach

What's Real, What's Not

A long time ago and a little north of here, a man named Wilson saw fit to impart to me a few nuggets of very durable wisdom. He phrased one of them this way:

"Bennett, I figured something out, and I'll tell it to you for free," he said. "Whatever you do, wherever you go, there's always three goddamn worlds out there, and you got to know the difference between 'em. The first one is the world you think is there, the one that's supposed to be there. The second one is the the world you want to be there, the way you wish things were. And after all that, then there's still the world that's really, really there."

Wilson was immensely satisfied with this pronouncement. Unfortunately at the time I was preoccupied with manually unloading a boxcar full of barbecues and could not do the Doctrine of the Three Worlds justice. I filed the thought away for future reference and grunted appreciatively.

Wilson's doctrine lay dormant until I decided a few months ago to say something in this space about the "Toolbox" facilities in Apple's A/UX operating system. In trying to figure out what to say, the demarcations between the apparent, hoped-for, and real worlds have demanded more attention.

The A/UX Toolbox

"A/UX Toolbox" is the name given to the various utilities and libraries in the A/UX operating system that allow UNIX software developers and end users to use Macintosh user interface routines and Macintosh Operating System facilities. (A/UX is Apple's version of UNIX for the Macintosh II. The Toolbox, of course, is not a part of standard UNIX but an enhancement added by Apple.)

The Toolbox makes it possible to do many wonderful things with A/UX. The UNIX software developer can create new programs that have the same user interface as conventional Macintosh applications. Furthermore, the toolbox is a great boon to developers trying to produce applications for the Macintosh Operating System. With the Toolbox, applications destined for the Mac OS can be created and tested in the UNIX environment (exploiting the wonderful software development tools UNIX offers). Once the program is complete, its source code can be moved to a machine with the native Mac OS and compiled there with a reasonable expectation of running. (It is the programmer's responsibility to insure that the UNIX and Mac compilers are compatible.)

The Toolbox also allows existing Mac OS applications compatible with A/UX to be imported into the A/UX environment and run there. This is an important feature because it will take time for applications developed specifically for A/UX to come to market. Whatever A/UX's merits as a UNIX implementation happen to be, the A/UX-Mac II combination is not going to succeed until users can do things with it. Running existing Mac applications could make A/UX more useful sooner.

"Just what is in this Toolbox?" you may ask. Quite a few things, it turns out.

For the software developer, there are the libraries and header files that extend the standard UNIX C library to include calls to the Macintosh user interface routines. Programs are written containing calls to these routines and then linked with the appropriate libraries.

Several utilities support the software developer. After a program is compiled, it must then be "loaded" to produce a binary image that can be run. A/UX includes a special loading technique to ensure that the resulting program has an adequate memory map.

Macintosh applications contain information about the resources they need. A/UX contains utilities ("rez" and "derez") to allow the developer to control the resources available to the application.

There are also excellent examples (complete with source code) of Macintosh applications for UNIX. The "term" program is particularly useful, providing a windowing capability for A/UX that is roughly equivalent to SCO's MultiView for XENIX.

Other utilities help with the importing of Macintosh applications. The "mfs" utility copies files to the A/UX file system from a Macintosh flat file system diskette. There is no support for copying from Hierarchical File System (HFS) diskettes at the present time. The "settc" utility allows the A/UX system administrator to set the file type and creator of an application imported into A/UX. A program named "launch" is used to start applications that use the toolbox facilities.

Finally, the runtime Toolbox really depends primarily on the "toolbox daemon." The term "daemon" is used for any UNIX process that runs constantly in the background to manage some system resource. Typically, printer access, electronic mail, automated scheduling, and network traffic are all handled by daemons. The toolbox daemon intercepts calls to either the native Macintosh OS or the ROM resident user interface routines.

The toolbox daemon may reformat requests for user interface services (the ROM routines were written in Pascal, and the toolbox daemon has to cope with the C language's calling conventions). It then executes the call using the same code the native Mac OS uses.

Whatever A/UX's merits as a UNIX implementation happen to be, the A/UX-Mac II combination is not going to succeed until users can do things with it.

Calls to the native Mac Operating System are handled differently: the toolbox daemon intercepts these calls and gets the necessary A/UX resources to satisfy the request; the native Mac OS code (also in ROM) is never executed.

In either case, the toolbox daemon works unobtrusively in the background. Presently, the toolbox daemon can handle only one toolbox application at a time.

The Apparent World

So far, so good. But what about the Three Worlds? No one can doubt that the utilities and libraries that make up the Toolbox are more than apparent; they are really there, and they really do work. Furthermore, Toolbox applications developed under A/UX work just fine. The problem is that when importing existing Macintosh applications, the Toolbox works within limitations, and some of these are acknowledged while others are not.

Some of the limitations have to do with the way the native Mac OS features are implemented in the Toolbox. The A/UX documentation explains at some length and quite clearly which facilities of the Mac user interface and native OS are implemented fully or partially or not at all. In general, the features of the Mac OS that manage hardware directly are less likely to be implemented.

Similarly, the documentation contains a good discussion of the compatibility issues that might affect importing a Macintosh application to be run under A/UX. Again, applications that attempt to do direct manipulation of hardware are almost guaranteed to be incompatible. Similarly, applications that are not "32 bit clean" will fail. (Even though the Mac's processor deals with information in 32 bit words, the Macintosh OS uses only 24 bits for addressing memory. The "extra" 8 bits of each address are available for the application's use

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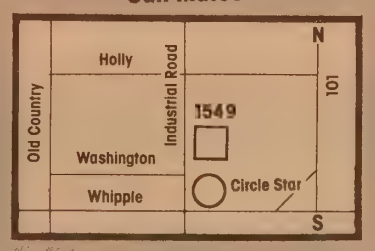

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under the Mac OS. A/UX requires the full 32 bits for addresses.)

Glimpses Of The Real World

Unfortunately, the A/UX documentation is silent on two critical topics: which applications do or don't work under the Toolbox, and what to do when a Toolbox application fails.

These topics are important because, for one reason or another, the overwhelming majority (97% according to one source) of Macintosh programs will not run under the current release (1.0) of A/UX. This might be acceptable if the failures had names like *Icon Eaters From The 12th Dimension*, but Apple's own *MacWrite*, one of the Macintosh "bread and butter" programs, simply does not run under A/UX 1.0.

And when *MacWrite* fails, it fails gloriously. The system console is left with an empty menu bar and a blank grey screen. The mouse pointer can be moved about, but no input is accepted from either the mouse or the keyboard, and unless there's an ASCII terminal attached to the system, the only solution is to reboot.

This is an extremely serious problem, and yet the documentation says only, "Most Macintosh applications can be made to run under A/UX with minor modifications." ("A/UX Toolbox: Macintosh ROM Interface", p. 9.) It should be pointed out that these "minor modifications" must be made at the source code level; an end user will not be able to modify the runtime version of an existing program to make it run under A/UX. Additionally, modifying an existing application to be 32 bit clean will almost certainly increase the size of the binary file that is executed and may affect performance as well.

About the best that can be done in this situation is for Apple to encourage developers to work within the A/UX guidelines. This may result in special versions of applications for the Mac II that will run under both the native Mac OS and A/UX, but it will do nothing for the compatibility of existing programs that can't be used with the A/UX Toolbox.

The Hoped-For World

My friend Wilson was a pessimist. It was his opinion that it might just be possible to understand what the real world was like after the hoped-for and apparent worlds were stripped away, and that was really all that interested him.

With respect to software, however, understanding the real world is never an adequate goal: there is after all, the question of what will be in the next release. Perhaps the "hoped for" world will show up there. The problem is that raised by Immanuel Kant: "What may I reasonably hope?" Indeed, the point of understanding the real world is to construct a more reasonable expectation of what the future brings.

The A/UX Toolbox, like all the best things about the Macintosh, certainly stirs the imagination. It is tempting to wish for extravagant things from the Toolbox, to imagine, for example, that there is a simple way to bring existing Macintosh programs into a multi-user, multi-tasking environment. There's no reason not to hope for this, it's just a long way off.

In the somewhat nearer term, it should be hoped that there will be more Mac applications that run under A/UX, and that the A/UX Toolbox will be able to run multiple toolbox applications simultaneously and exchange (not just read) files with HFS disks. Perhaps the system could handle more gracefully the crashes of Toolbox applications.

Toolbox applications developed under A/UX work just fine. The problem is that, when importing existing Macintosh applications, the Toolbox works within limitations, and some of these are acknowledged while others are not.

In the near term and with all possible urgency, it should be hoped that no one will hold the real world at arm's length, and above all that documentation will illumine that world and not obscure it. ■

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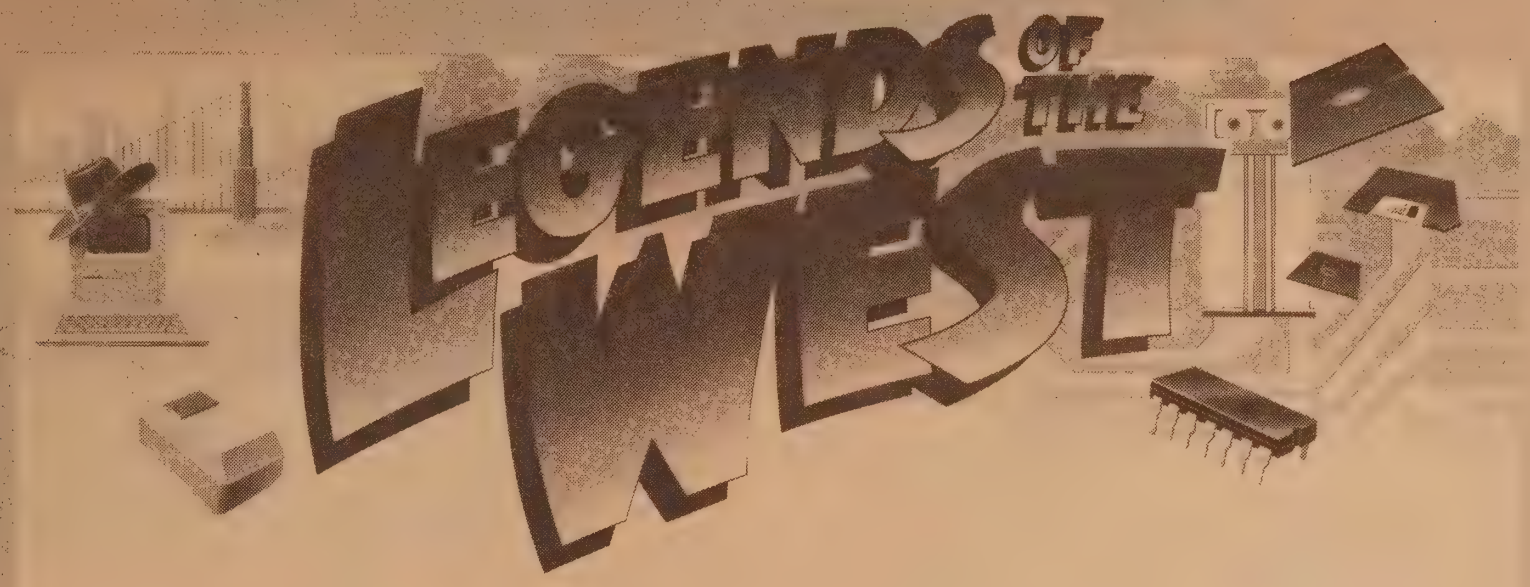

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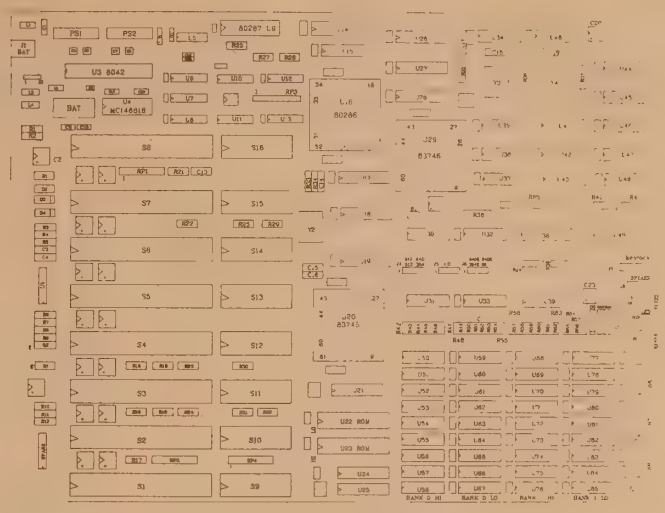

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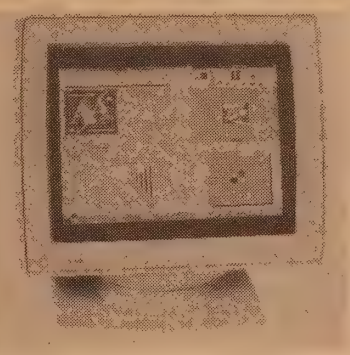

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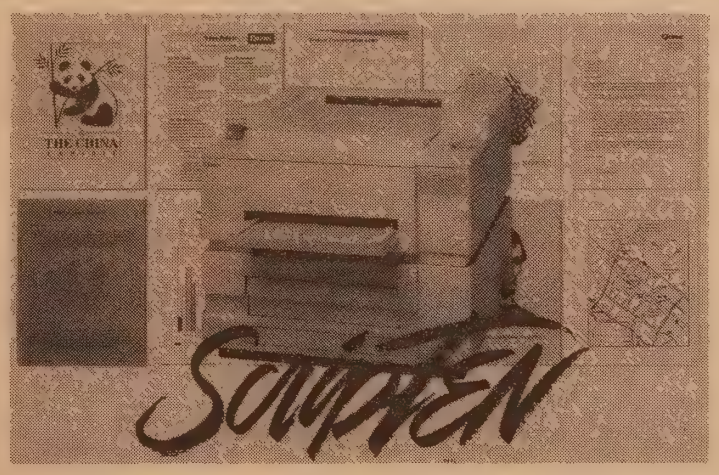

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BY BROCK N. MEEKS

Not-So-Universal Access

As the great FCC access rate debate proved, there's a lot more going on out there beyond your non-AT&T phone than "reach out and touch someone." What few people knew, fewer expected: the telephone companies of America are jumping square in the middle of the information age. Trouble is, they're bleeding all over the leading edge.

That the regional holding companies (RHC's), sometimes called "baby Bells," are starting to impose—or in some cases fabricate—their own idiosyncratic notions of rights and responsibilities is alarming. And as if it isn't enough that we have to babysit the baby Bells to insure that our access to information isn't legislated or regulated down the bitstream, a bizarre story out of Iowa indicates that we now have to keep an eye on our "alternative" long-distance phone carriers, too.

Fed Up At The FCC

When Rockwell International engineer James Schmickley found he couldn't reach one of his favorite bulletin board systems (BBSes) using his long-distance carrier, Teleconnect, he thought something was fishy. As he probed for an answer he discovered that Teleconnect had decided to simply block access to that single phone number for *all* Teleconnect users.

Schmickley, upset with the idea, took his case to the Iowa Utilities Board. No luck. So he took his case to the Feds: he filed an informal complaint with the Federal Communications Commission.

Schmickley's complaint brings to the forefront several critical issues involving the nature of BBSes and the ability of carriers to block access to numbers on grounds of protecting themselves from theft of service and loss of profit.

From The Beginning

When Schmickley tried to call the Stock Exchange BBS in Waterloo, Iowa, he had his attorney contact Teleconnect with a letter demanding to know why the carrier had apparently arbitrarily blocked access to the BBS.

In a letter dated April 28, Teleconnect's General Counsel Casey Mahon told Schmickley that it blocked the BBS "in its good-faith belief that theft of Teleconnect services was being accomplished through misuse of the number by parties unknown to Teleconnect." In other words, Teleconnect thought the Stock Exchange BBS was being used as a drop for stolen Teleconnect access codes.

Mahon, trying to be helpful, suggested that Schmickley dial the BBS using the "10XXX" code 10288 and the local number for the BBS. Or, it was suggested, Schmickley could change his choice of long distance carrier. Mahon's letter failed to mention that 10288 happens to be the equal access code for AT&T. (Anyone can try out the various long-distance carriers using this method. For example, if you dial 10444 area code-number you'll be connected via Allnet; for US Sprint you dial 10777, and so on.)

Then, as an apparent parting shot, Mahon acknowledged that Curtis Kyhl, sysop of the Stock Exchange BBS, was probably a responsible individual, but "even reputable operators of computer bulletin boards cannot always prevent 'hacking' by others."

Teleconnect also said it couldn't determine the identity of a bulletin board operator. (And yet, Mahon acknowledged Kyhl as sysop in the letter.)

Failing to get any satisfaction from Teleconnect, Schmickley took his case to the Iowa Utilities Board. Still, Teleconnect kept the block on the number—without ever publicizing the fact to either its customers or to Kyhl, for 10 months. In a July 29 letter to the Utilities Board, Teleconnect claimed that the company "had suffered substantial dollar losses as a result of the theft of long distance services by means of computer 'hacking' utilizing the computer billboard [sic] which is available to that number."

There's something curious about the correct use of jargon here. "Billboard" in place of "bulletin board" disturbs me. If these guys had solid evidence of illegal activity, and were savvy enough to look for it, certainly they would have the jargon down pat.

In a further move of hysteria, Mahon told the Utilities Board: "A computer billboard can be used in other ways to facilitate theft of long distance services."

Mahon was apparently convincing, as on August 19, the Board agreed with Teleconnect, allowing the company to block lines in what it called "emergency situations," saying that Teleconnect's response "appears to suggest that there was an emergency due to revenue loss."

Your Number, Please

The Board, in a move equal to a bank jerking someone's credit card privilege, said "The company chose to reduce the service to this one number by blocking calls through its system."

Schmickley wasn't convinced. He took his complaint to the FCC on September 19. In addition to the blocked call to the Stock Exchange BBS, Schmickley also noted that an interstate call, via Teleconnect, to another BBS, located in Barrington, IL was also blocked.

In his complaint Schmickley questions whether a long distance carrier has the right to block access to a BBS. "If they can do as they damn well please, it's a serious threat to free communications," Schmickley said. He further noted that the responses from Teleconnect and the Utilities Board showed a lack of understanding of computer communications.

Citing a dial-a-porn case, Teleconnect said that a "carrier may institute blocking even if the offending access is not illegal."

Schmickley drew this conclusion from a December 2 letter from Teleconnect which states that it tried to contact the Stock Exchange BBS but couldn't because of "software incompatibility."

Case For The Defense

Teleconnect's response to Schmickley's FCC informal complaint says that the issue is one of protecting the network against loss of revenue. The blocking action is necessary, according to Teleconnect's response, is required to prevent "fraudulent use of the network by computer 'hackers'."

Teleconnect also stated that its move was neither arbitrary nor wrong. The company's defense is muddied because they say that calls to the BBS (guess they'd hammered out the software incompatibility issue by now, eh?) "exhibited patterns which clearly indicated that theft of telecommunications services was occurring." And yet they declined to detail what those "exhibited patterns" entailed.

This blocking procedure appears to be standard practice at Teleconnect, because they also state that blocked calls are enacted "only when clear signs of hacking and other unauthorized use are present."

They closed their response by trying to use some muscle. Citing *Carlin Communications v. Mountain Bell*, a dial-a-porn case, wherein Mountain Bell was allowed to shut down the services of Carlin Communications, Teleconnect said that a "carrier may institute blocking even if the offending access is not illegal."

That last sentence bodes ill for the coming year. I applaud the actions of Schmickley. If nothing else, his foresight and efforts have again brought to light the fact that if we are not vigilant, we will certainly lose our freedom of access. ■

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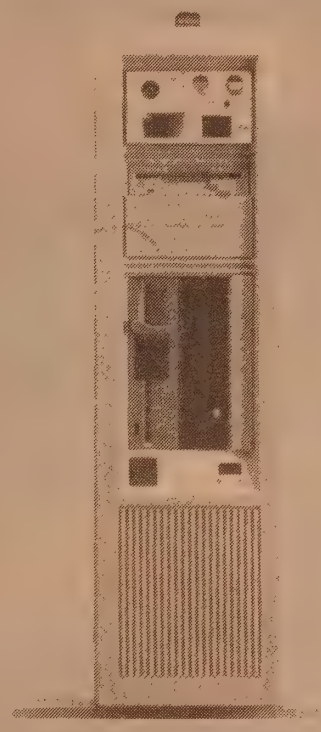

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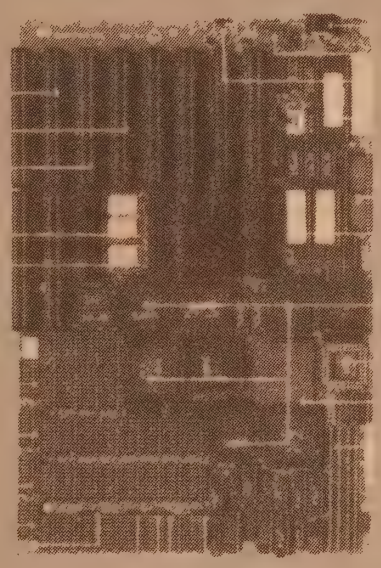

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BUSINESS COMPUTING

BY SUZANNA MUSICK

Selecting Business Software

In my last article I reviewed how a business can tell when it is ready to automate. I listed numerous benefits that companies obtain from automation, and looked at how particular industries gained an advantage.

This month we are going to take a look at how a business owner or manager should go about selecting software. I am going to discuss accounting software because it is what I work with the most, and because what I say about this type of software is a good model for selecting any kind of business software.

The first step in software selection is also the most important: **WRITE DOWN YOUR NEEDS**. I am amazed at how often people want to bypass this critical procedure and jump ahead. Writing down your needs sounds simple enough, doesn't it? The reason most companies skip this step is that by the time they are ready to automate, they are also ready to *buy*. They do not want to spend the time (possibly a month or two) required to ensure that they have selected the most suitable software program for their needs. Sorry, folks. As I said—this step is the most important.

Real-Life Stories: Know Your Needs

To illustrate, let me tell you a little about my background and how I learned about selecting software. Out of college, my first business experience was in private industry (as opposed to public accounting, where I am now). Eventually, I became the financial manager for an oil company in Houston. The owner of the company wanted us to automate in order to produce timely financial statements (for our investors) and keep track of the money we were spending looking for oil on specific parcels of land.

Our CPA implemented a generic job costing program to track our expenses to the various land parcels (jobs). Had our CPA met with our key management people he would have quickly discovered that a job cost system for contractors was not going to work for an oil company. To complicate matters, we were also beginning to drill and manage our own oil wells, and a construction job cost system could not handle our unique requirements for tracking production and billing investors for their interest in different wells.

Following that debacle, I conducted my first needs analysis. I wrote down everything we did that had anything to do with the computer (including the secretary's desire for word processing capabilities). I talked with the owner and the other managers about their jobs and how the computer could provide them with valuable information. I asked not only about what they were doing now, but what their plans were for the foreseeable future. And I wrote it all down.

Following that, I organized the information into functional groups and distributed my report to everyone to review and add any additional items. While they were all reviewing the document, I started calling our competitors and asking them what software they were using and what they liked best, and least, about it. From these leads I started calling the manufacturers of the programs to get more information about their software and their company.

To make a long story short, we converted from the job cost program to an oil and gas accounting program which could handle our current and future needs. We could have saved ourselves considerable time, expense, and frustration by making the effort to do it right the first time.

The story is not over yet. When I moved to California from Texas, I went to work managing a small, independently owned retail computer store. We took pride in offering full service to our customers—we went beyond selling boxes of computers with boxes of software. We helped our customers to decide what they needed, and, after purchase and installation, provided training on the system (hardware and software). We had very few problems in helping customers with word processing or spreadsheets, but accounting was a different matter.

A business owner would come in to our store and announce: "I want to automate my accounting." Well, that sounded just dandy. But then the trouble began. First, customers wanting automated accounting were always directed to me because at that time it was close to impossible to find sales people who knew computers and accounting. I would ask them about which "modules" (accounts payable, general ledger, accounts receivable, job cost, etc.) they wanted to automate. Usually, they could answer this question. It was the following questions that normally tripped them up.

Let's say they wanted to automate accounts payable. I would ask: How many checks do you write a month? How many active vendors do you have? What is the largest number of invoices you pay to one vendor with one check? Do you ever make partial payments? Do your vendors give you terms and offer discounts for early payments? Etc., etc., etc. Most people could not answer these questions off the top of their head.

From this experience I put together a "Needs Analysis Worksheet" which was divided into sections for each of the different modules. This was used as a guide to helping the business owner to consider all of the various elements about his or her operations. We would then compare the information in this worksheet to the various programs available.

Today there are hundreds of accounting programs to choose from, making it more than likely that there is a program out there suited to your business's requirements. On the other hand, such a large number of programs makes the job of finding the right software an even bigger challenge.

At that time (a mere five years ago) there wasn't a plethora of accounting software to choose from, so if someone wanted to do time and billing or job costing, about 90percent of the available programs were automatically eliminated. Today, there are hundreds of accounting programs to choose from, making it more than likely that there is a program out there which is suited to your business's requirements. On the other hand, such a large number of programs makes the job of finding the right software an even bigger challenge.

Okay, have I driven home the importance of knowing and documenting what you need for your business and from a program? I hope so. Two more points about this issue before we move on to the next step. I always tell my clients to document all of their needs, paying particular attention to the items that are specific to their business. Redundancy is not a problem. It's fine if everyone tells me the same thing over and over, but if no one tells me about an idiosyncratic requirement they have, that could prove disastrous.

And finally, do not fail to speak with anyone who

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Suzanna Musick is a Manager in the Computer Consulting Department of Hemming Morse Inc., CPAs. Her experience encompasses a wide range of industries such as distribution, retail, construction, real estate, financial and professional services.

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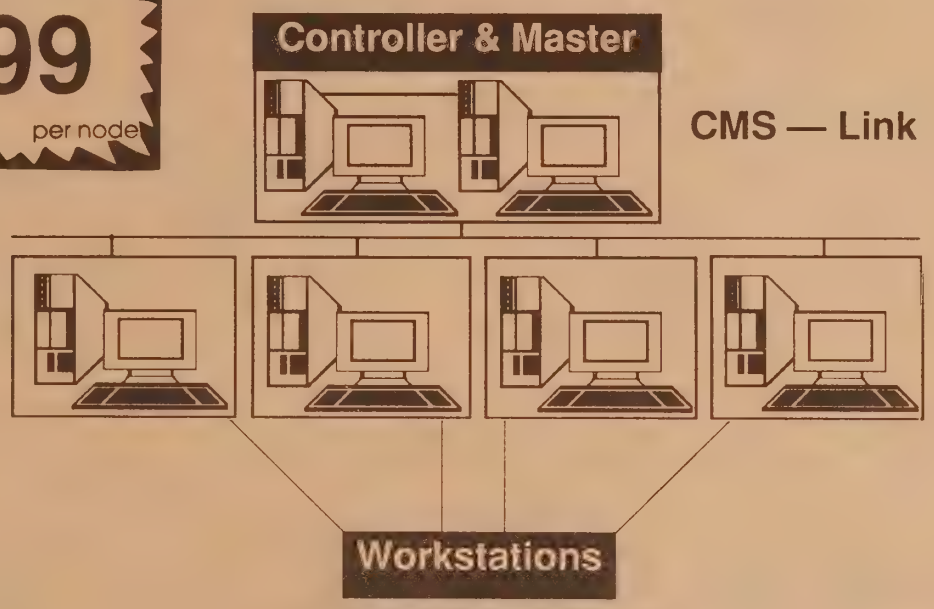

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is going to be using the computer itself, or the information it provides. Your employees are more likely to accept and embrace automation if you include them in the decision-making process. Besides, you will be surprised at how much more your employees know about it than you ever imagined—they probably know things about your business that you don't.

Shopping For Software

Now you have written down your requirements for the program you want to buy. It is time to shop. If you can, do as I did and call your competitors. Find out what they are using, and how they like it. This is something we frequently do for clients; competitors are more likely to talk to a consultant than they are to talk to their rival.

Whether or not you can talk to your competitors, make copies of your needs analysis and take it to a computer store that specializes in business software. Use it as a check list. Find out if the program can do what you need. Evaluate at least three different software programs and see how they compare to each other. You will find that many of these programs have the same basic features, but there are going to be differences which will make one program more suitable for your business than the others. Write down your findings on your needs analysis so that when you leave the store you can remember which program did what.

Another thing, find out about the manufacturer of the software and their policies regarding technical support and program updates. How long have they been in business? How many installations do they have? How much do they charge for updates? Do they have various support packages you can buy, and what do they include? Do they have an 800 number for you to call? What is their average response time? The answers to these questions will help you decide if this is a company you want to do business with.

Go see a demonstration of the programs you are interested in. Get your hands on the computer (and the hands of the person who is going to be using it day-in and day-out) and judge for yourself how it "feels" to use the program. Do the menus make sense? Are the screens easy to read or are they so busy that you can't figure out where you are at any one point? How many keystrokes does it take to get to where you can input information? Does the software provide "on-line" help—if you are in the middle of a transaction and are not sure what to do, does the software tell you your options at the touch of a key?

Look at the documentation manuals. How "readable" are they? Look at the table of contents and index. Try to look up a particular task and see if you understand the instructions. Be forewarned—software documentation almost always leaves a lot to be desired. The program you select should at least have adequate documentation that you can read and understand.

Let's summarize where we are right now. We have:

- Documented our needs;
- Researched various programs, talking to competitors if possible;
- Found a computer store that specializes in business software and has a wide selection to choose from;
- Documented our findings on the software's capabilities using copies of our needs analysis as a check list to compare the various programs;
- Completed demonstrations of the programs and reviewed the documentation.

Your employees are more likely to accept and embrace automation if you include them in the decision-making process. Besides, you will be surprised at how much more your employees know about it than you ever imagined.

At this point you should be able to make an educated decision as to what program is best for your business. Go ahead, buy it. Next month we will take this process to the next logical step—implementation and training. ■

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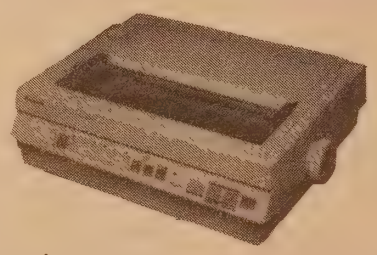

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BY MATTHEW LEEDS

The Upgrade Shuffle

I'm addicted, I admit it. Technology holds a strong and peculiar attraction for me. It may be something as subtle as minute electro-magnetic fields generated by silicon chips or the full blown fantasy that owning the latest new wiz-bang gadget brings me just a little bit closer to techno-magical control over my environment.

All this and more made it impossible for me to resist when I recently was at my local Amiga retailer and discovered that they had both the Kickstart V1.3 ROM and the autoboot ROMs that would let my Amiga 2000 boot directly from my hard disk. It seemed like a simple upgrade: back up the hard disk, pop in the new chips, reformat the hard disk, and restore the data. That was until Murphy decided to get involved.

I left the store with the new Kickstart, autoboot ROM's for my GVP hardcard, and a new copy of *Quarterback*. *Quarterback* is a hard disk backup and restore utility, one of the best on the market. The latest version lets you backup and restore using two floppies. The earlier version only restored from a single floppy; using two makes it much faster. This new version also supports streaming tape and other high density devices.

Once home, I backed up my 40 Mb Quantum drive. Since it is about half full, this took only two dozen floppies. After this was finished I tested the backup set by reading the catalog of files *Quarterback* writes on the first volume. I'd had occasional problems with earlier versions of *Quarterback*; if it does not recognize the first volume as a valid *Quarterback* disk you cannot restore your data, as only the first volume contained a catalog of files. This has been changed in the new version; now a catalog is written to the last volume as well, but I was not going to take any chances. *Quarterback* approved the first volume and I was ready to install the new chips.

Inside The 2000

The 2000 is relatively easy to open up. Five screws hold the cover in place, and you do not need to disconnect any cables to remove the cover. For safety's sake I always disconnect the power cable. I then removed the hardcard and set it on the desk. The two autoboot ROM sockets were easy to locate, and the ROMs were clearly labeled as to which ROM belonged in which socket.

Next I removed the screws that held the bracket containing the power supply and floppy drives. This covers the socket that contains the Kickstart ROM and must be moved. It's possible to rest this bracket on its side on top of the 2000 without disconnecting any of the cables attached to the power supply or floppy drives.

Copyright © 1989, all rights reserved. Matthew Leeds has been involved in the high tech field since he blew up his bedroom playing with a children's chemistry kit. He has been using Commodore computers since 1982 and has a strong interest in photography, video, graphics, and related fields.

Now it was time to remove the V1.2 Kickstart chip. I don't own a chip pulling tool and use two small screwdrivers as pry bars to pop chips from their sockets. I always get nervous doing this—I'm afraid I'll damage either the chip, the socket, or the motherboard. Generally it's the chip that suffers from my heavy-handedness, and this time was no exception. I bent a few of the pins on the chip as it came out of its socket, but at least nothing broke. I carefully straightened the pins out and then pushed the chip into a piece of anti-static foam.

Getting the new Kickstart into the socket was easy. The old chip had a half-moon divot on one end, the key used to orient it in its socket. The new chip lacked this clear marking, but did have a small circular mark on one end that seemed to serve the same purpose. Naturally the pins on the chip were spread too far apart, but I've learned that all that's required is to press each set of pins against a flat surface and bend them towards each other to align them correctly.

Enter Murphy

I've also learned not to put everything back together without testing first. I stuck the power cord back into the power supply, and turned the Amiga on. First hint of trouble—the machine refused to show a Workbench request screen. The power light on the front blinked at me, a slow on/off scolding, "you screwed up, didn't you?" The question was, where?

I carefully checked the Kickstart chip to see if any of its pins had been bent or misinserted, but everything looked fine. I checked for little pieces of metal that might have landed on the motherboard—nothing. I checked the cables at the back of the machine, the phase of the moon, and the time of day—also nothing.

I called the store and asked for help. The technical support person at the store had me check everything again. No bent pins, chip aligned correctly, no dangling cables, nothing out of place. I still had the hardcard removed from the machine, and he suggested I also remove the memory expansion card, as the Amiga might being trying to autoboot from it. Sounded crazy to me too, but at this point I was willing to try anything. Still no luck.

Next he had me pull the V1.3 Kickstart chip (more bent pins) and replace the V1.2 chip. Power back up and voila!—a Workbench request screen. Diagnosis: defective Kickstart V1.3 chip. Out of 300 V1.3 chips sold, the store said they had only found two defective. I was glad to have helped them find the needle in the haystack.

Just to be sure, when I returned the defective chip I brought my 2000 along to test it. The tech and I (well, I watched) disassembled my 2000, popped in a new V1.3 Kickstart, and powered it up. A hand asked for a Workbench disk, V1.3, and I was back in business.

It seemed like a simple upgrade: back up the hard disk, pop in the new chips, reformat the hard disk, and restore the data. That was until Murphy decided to get involved.

Hard Disk Tips

Autobooting from a hard disk on the Amiga requires the presence of special information on the hard disk. This information is contained in an area known as Rigid Disk Blocks. To add RDB to a hard disk you must first reformat it. The Great Valley Products people supply software that automates the entire process of formatting a hard disk, installing the RDBs, and copying the basic AmigaDOS system files onto the newly prepared hard disk. The software will even handle preparing partitions on a hard disk of any size or number.

Since there may be times that you want to boot from the floppy drive, the boot priority of the hard disk is set lower than that of the floppy drive. Put a Workbench disk in drive DF0:, and CTRL-CTRL-AMIGA will boot you from that disk. This is useful for playing games, or restoring a crashed hard disk.

I've got two floppy drives on my 2000, and if I don't keep a disk in each they click. This is normal, but also maddening. I usually keep a disk in each just to keep them quiet. Before I added the hard disk autoboot capability, I just kept the boot disk in drive 0 and a scratch disk in drive 1. I could power up the machine and just wait until it finished booting with nary a click to be heard. The first time I tried this with my new setup, it booted off the floppy drive. I pulled out the boot disk from drive 0, stuck the scratch disk in and hit the three fingered salute. This time I got a CLI window on screen and a 1> prompt, in record time. This was not my usual boot sequence.

It turns out that at some point in time I had *installed* my scratch disk. This makes it a bootable disk as far as AmigaDOS is concerned, regardless of the fact that it does not have a S directory, much less a startup-sequence, C directory, or other desirable contents for a boot disk. I now keep a non-installed scratch disk in drive 0, another scratch disk in drive 1, and the only noise out of my 2000 is the gentle roar of the fan punctuated by the occasional muted chatter of the hard drive. Bliss. ■

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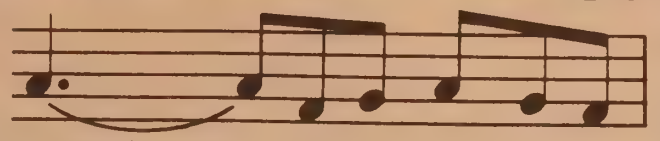

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ATARI ST

BY DAVID HAWKINS

Atari At COMDEX

COMDEX was held in Las Vegas around the middle of November. It's now a little later and I've been able to collect some information from various sources. I wasn't able to go to COMDEX myself this year.

Atari Announcements

Atari announced that they will be shipping a ST portable computer in late first quarter of 1989. Present descriptions of it say that it will be a laptop with 520 or 1040 K of RAM, a 20 meg hard disk (or larger), and a blue LCD screen. Estimated price is to be around $1500. Evidently only a few people got to see the prototype for this computer.

A computer called the Atari TT is to be released in the second quarter of 1989. It's based on the 68030 chip and will run a version of System V UNIX. Developers should be able to get one in the first three months of 1989. A model of this computer was not shown at COMDEX.

Atari did show the following at COMDEX:

The PC4—a 286 PC Compatible with a 30 meg hard disk

The PC5—a 386 PC Compatible with a 30 meg hard disk

The ATW—the transputer workstation

Ultrascript—a PostScript interpreter for the Atari Laser Printer

Deskset II—a DTP program for the Atari Laser Printer

A robotics controlling kit for the ST/Mega computers that allows them to control robot devices through the cartridge port.

What The Other Companies Were Showing

JR Innovations had GenLock on display. There is still no FCC approval. It will go for between $500 and $600.

ISD Marketing was showing *Calamus*, an expensive desktop publishing program. Mainly aimed at the MegaSTs, but there is a version for the 1040 also. A lot of good features. Will sell for $299.00.

Intersect was showing *Masterlink*, an advanced version of *Interlink*. Has *Interlink*'s features, plus a script language and multiple editing buffers. $59.95.

Nite Lite Systems has an RS232 LAN (local area network). $799.00.

Legend Software was showing *The Final Cut*, a toolset for editing and synthesis arrangements. $89.95.

Navarone was showing a new version of *ST Scan* which prints directly to the Atari laser printer.

Precision Software showed *SuperBase Professional* Ver. 3.0. $349.95.

Word Up - *Word Up* was upgraded and looks better. They were also showing the HP Deskjet driver.

FTL now has a hint disk for *Dungeon Master*. It can tell where you are in the game and give the hints for only that area.

Regent Soft showed *Regent Base II* and a kit for the STs that stiffens the key response. The kit is called Megatouch and has a list price of $11.95. You can contact Regent Software at PO Box 14628, Long Beach, CA 90803-1208. Phone number is (213)439-9664. Sounds like a great product and I'm hoping to get one soon.

Developers Conference

There was a meeting of over 300 Atari ST developers and Sam Tramiel on November 16th. Tramiel made the following announcements:

The DRAM shortage is now over at Atari. Production had been hampered by the lack of memory chips.

Between 50 thousand and 75 thousand Mega STs are produced each month. Right now about 90% of those are sent to the European market, where Atari has had a lot of success in selling STs. However, this will be changing.

Come Fly With Me

I spent this week with *Falcon*, a F-16 fighter simulation from Spectrum Holobyte, 2061 Challenger Drive, Alameda, CA 94501, (415)522-3584. My progress so far? I can get it in the air, but haven't been able to bomb anything.

Falcon is a pretty good game with a lot of features and an excellent manual. The manual shows a lot of attention to detail and uses clear examples of what a beginner needs to get into the air. The manual is the key to learning to play with *Falcon*. The simulation is so complex that you can't just sit down and take off—unless you're an experienced pilot of the real thing.

Anyway, *Falcon* has good graphics and a good interface. If I get to the point of being able to bomb things, I might stick with this game for a while.

I do have one gripe: the game comes with a decoder ring, but the instructions don't mention it. However, you do need to use the decoder ring to get the game going. It took me a while to figure that out.

According to Atari president Sam Tramiel, the DRAM shortage is now over at Atari. Production had been hampered by the lack of memory chips.

Increasing Complexity

Falcon is just one more program for the ST where reading the manual is an absolute necessity. I miss sitting down and popping in a disk and immediately starting to play a game. But I guess all the simple games have been done.

I like the interface for games like *Dungeon Master*, but even it takes a little reading. I coached someone through the opening of *Dungeon Master* and it reminded me of how much had to be explained before one could enjoy just playing the game. □

Copyright © 1988 by David Hawkins. All rights reserved. *David Hawkins is the host of the Atari conference on The WELL (415/332-6106); send email to dhawk. He has one of the first Atari ST 1040s sold in San Francisco goth monitors, an Okimate 20 color printer, and disks all over the room.*

Don't be fooled by the name...

Yes, we are Guitar Showcase.

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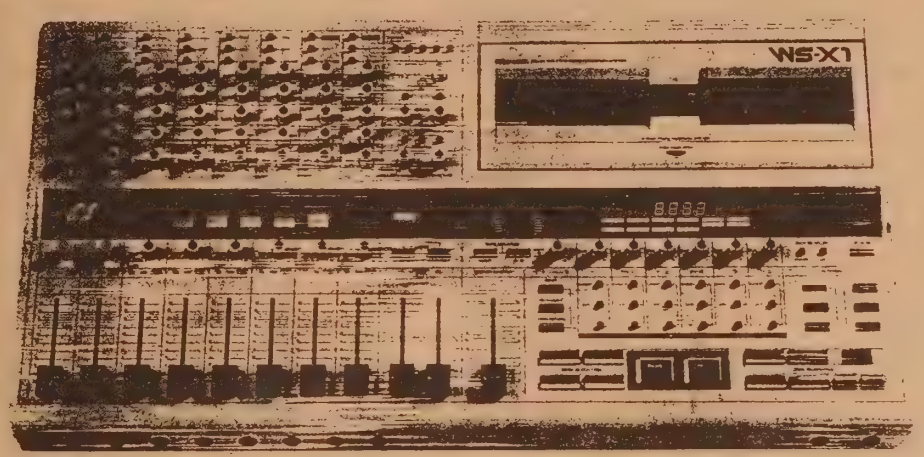

Check out the latest multitrack recorder ... the Sansui WS-X1.

The WS-X1 is a console-type 6-channel multitrack recorder (MTR) with an 8-channel stereo mixer that is designed for the musicians who want mix and edit their own recordings. The unit also features a 2-channel deck for quick and easy mix-down of master tapes. This unit is the first of its kind from Sansui, the world-renowned Japanese audio and video manufacturer.

The WS-X1 is a versatile control center for home recordings, incorporating all the functions necessary for editing and production of taped recordings. It's an ideal studio machine for the one-man band approach or when playing against the background of other musicians and bands, and it can also be used for group practice or making demo tapes.

WS-X1 offers siz record/play channels - two more than common 4-channel designs, yet not as complex as expensive 8-channel designs. Using the soon-to-be-available MR-6 6-channel slave MTR and SY-1 sync unit, WS-X1 users can expand to 10-channel-or-more capabilities if necessary.

SPECIFICATIONS

TAPE RECORDER SECTION	
Tape Type	C30 - C90 cassette tape (chrome)
Track Format	Deck A: 6-track, 6-channel record/play Deck B: 4-track, 2-channel record/play
Tape Speed/Deviation	Deck A: 9.5cm ±1% per second Deck B: 4.75cm per second
Pitch Control	±15% (Deck A only)
Wow & Flutter	0.06% (NAB weighted)
Sync Out	-10dBV/100 ohms
Frequency Response	40Hz-12.5kHz ±3dB
Channel Separation	50dB (1kHz 0VU NR in)
Erasure	70dB (1kHz)
MIXER SECTION	
Distortion	0.06% (amplifier)
Signal-to-Noise Ratio	72dB
Frequency Response	10Hz-60kHz
Separation	65dB
Mic/Line Input (x6)	
Input Level	Mic, -50dBV at trim max Line, -10dBV at trim min
Impedance	50k ohms
Effect Return (Stereo)	
Level	-10dBV/5k ohms
Effect Output	
Level	-10dBV/100 ohms
Equalizer	
Low	100Hz ±12dB
High	10kHz ±12dB
Dimensions (W x H x D)	625 x 100 x 340mm (24-5/8" x3-15/16" x 13-3/8")
Weight	8.3kg (18.3 lbs.)

MIDI Mondays

San Jose, 7 pm, Free

1/23 Namm Show Recap

Info from the Edge of the Envelope

1/30 MIDI on the Guitar

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Sample Vision Editor

1/13 MIDI on the Amiga

Music X

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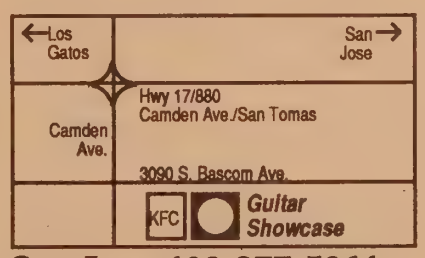
With Bob Wehrman
factory rep and Keyboard magazine columnist. If you're considering buying an EPS or own one and would like to learn more about it, don't miss this clinic.



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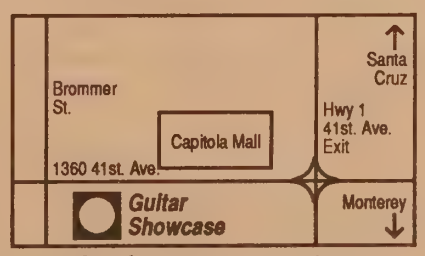

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Guitar Showcase

USER GROUP NETWORK

BY MARY EISENHART

Happy New Year, Bay Areans, and hope to see some of you at the MacWorld Expo this month.

It's certainly been a good month for mail from Mac user groups, which appear to be popping up all over the place. The **Macintosh Users of ComputerWare**, who meet at the ComputerWare store at 490 California in Palo Alto, call themselves **MUCoW** for short and featured a presentation by **Jean-Louis Gassee** himself at their November 22 meeting. Gassee, in addition to pouring oil on the troubled and expensive waters of Mac userdom, made some predictions about what problems the industry needs to solve to achieve universal acceptance of personal computers: end-user programmability, handwriting recognition as an input method, and the incorporation of new media, such as video. Gassee was also hawkish on the matter of Apple licensing its Mac technology.

If you'd like more information about MUCoW, call (415)496-1051 or (415)496-1033 for more information. You might want to think about getting one of their t-shirts too...

Meanwhile, in the East Bay, **HayMUG**, the **Mac User Group for Cal State University at Hayward**, wants to announce its new BBS, which runs 24 hours a day at (415)881-2629 at 8-N-1, 1200 baud. According to group president and board sysop **Nick Barcet**, there are discussions and data transfers suited to a variety of interests and expertise levels, and users can be fully validated by providing a valid phone number, their full name, and agreement to abide by the board's rules. He adds, "All downloaded files are checked before validation in order to eliminate bad programs and virus spread. We do not guarantee it, but we sure work on it with the latest tools available."

Also on the Mac BBS front, long-time Mac board **MacCircles** (415/484-4412), which has been a favorite source of files, help, and conversation for several years now, wants to remind you, as sysop **Patricia O'Connor** puts it, "We are still alive and communicating out here in Pleasanton." So check it out—speed demons will be glad to know that MacCircles is accessible at 9600 baud, as well as 300/1200/2400, 8-N-1.

Among the stack of correspondence we've received, there's some interesting, little-known information, which may well be of use to the user group community in general, from the **National Association for the Exchange of Industrial Resources.**

NAEIR, itself a nonprofit group, takes donations of surplus inventory from corporations, then redistributes the materials to member organizations, all tax-exempt, nonprofit 501 (c)(3) organizations. Eight thousand schools and charities across the country already participate. Members pay annual dues of $520, plus shipping and handling on the merchandise they order. The merchandise itself is free; NAEIR says its members average $6,000 worth of new materials a year.

What's in it for you? Well, available products include computer paper, modems, diskettes, cables, software, books and manuals, disk drives, anti-glare screens, workstation furniture, dustcovers and the like. The program has been in existence since 1977 and expects to give away over $45 million in new merchandise in 1989.

Not all user groups fall into the 501 (c)(3) category, but for those who qualify, this could be a valuable resource. You can get more information by writing NAEIR, Dept. MT-2, 560 McClure Street, Galesburg, IL 61401 or giving them a call at (309)343-0704.

In the world of Amiga, we get email from **Bob Galvan**, retiring president of **Amiga Users of Marin**. Bob informs us that the group, now in its third year, meets on the third Wednesday of the month at the College of Marin Science Center 191, at 7:30 pm, and that its new president is **Bill Stanton.** The group has an extensive library of public domain software, which it offers to members for copying at no charge. Finally, the group also offers the **Mega Tokyo BBS**, (415)435-0186, in Tiburon.

From **Scott Longwell** of Berkeley comes good news for *R:BASE* users: the **R:BASE User Group of the East Bay**. It meets on the last Thursday of the month; registration is from 8:30 to 9 am, and the meeting follows thereafter until noon. Call (415)848-2080 and ask for Scott if you'd like more information.

Once again, this month's mail reflects Something For Everyone out there in BBS-land. Those interested in making sense of the increasingly complex world of LANs and networks, for instance, might want to check out **LANmate** (415/465-1113, 300/1200/2400, 24 hours), which is a technical support BBS for Novell NetWare third party products. It offers patches, utilities, a question-and-answer forum, product evaluation, technical information, and more. **Anthony Sprague** is the sysop, and he invites your calls.

Bill Kanios of San Francisco invites the MIDI-minded (that's Musical Instrument Digital Interface) to check out his BBS, **The Cove**, at (415)931-5641. It's an IBM PC-oriented board offering files and messages, including an extensive MIDI support section.

Jim A., who, as he points out, lives 200 feet from our office, sends us a listing for *his* board, **OASIS**, which offers support for people recovering from a variety of eating disorders and is affiliated with Overeaters Anonymous. Oasis can be accessed 24 hours a day at (415)658-5397, 8-N-1, 1200/2400 baud.

And for sheer variety of offerings, it's hard to beat the listing we got from **Eric Marsh**, singing the praises of the **Philosopher's Stone RBBS** (415/487-9375). Its conferences include Wiccan religion, Gardnerian SIG, Alcoholics Anonymous SIG, Pagan AA, Programmer's SIG, Ferret Enthusiasts SIG, and Jokes And Punny Stuff. Eric adds that the board currently operates at 300 and 1200 baud, 7-E-1 and 8-N-1, and that it should offer 2400 baud capability Real Soon Now.

As always, please keep sending that US Mail to User Group Network, 5951 Canning Street., Oakland, CA 94609. And send that email to **microx** on The WELL, (415)332-6106, or **{pacbell, hplabs, ucbvax, apple}!well!microx** from usenet. Thanks, and see you all next month. ■

BULLETIN BOARDS

INTERNATIONAL

Cassia Express. (065) 344-9163. 300/1200/2400 24 hrs. Singapore. Sysop: N.M.Rahman

FidoNet Argentina (054). (011) 541-22-419. 8-N-1 3 PM-11 AM PST. The 1st fido node in Argentina has over 450 subscribers. Specializes in issues from S.A. PD software library to d-load. Sysop: Pable Kleinman

Remote Bulletin Board (Singapore). (065) 445-1646. 9600/2400/1200 24 hrs. 218 MB Online (IBM upload/download). Sysop: Umar A. Rahman

203

Terrapin Station. (203) 656-0134. Grateful Dead Board. Sysop: Klaus and Gretchen Bender.

209

Bertha Board BBS.(209) 239-9853, 300/1200/2400, 8-N-1, 24 hrs. MS-DOS, others. 95 Mb online. Emphasis on programming. Uploads and downloads. No fee but registration required. Sysop: Kenneth Roach.

Oasis Software Library.(209), 823-2803, 300/1200/2400, 8-N-1, 24 hrs. Shareware and PD for IBMs and compatibles. No fee but registration required. Sysop: Tim Campi.

Silicon Realms. (209) 754-5530. 300/(1200 Soon) 9:30AM to 6:30AM.Formerly Motherload 64. Commodore, PET & Plus/4. Programmers board, Continuing & Short Story boards, FRPG. Sysop: Joe Commodore

SMERDON'S CASEL (California Attractions, Sights and Entertainment Listing), (209) 521-4910, 8-N-1, 24 hrs., 300/1200/2400. Information on over 700 things to do and see in California. Free. Sysop: Sharon Smerdon.

The Backdoor BBS.(209), 952-9430, 300/1200/2400, 8-N-1, 24 hrs. MS-DOS oriented board. Lots of software, online chess game, much more. Sysop: Randall Fox.

212

Lawyers Linked by Modem. (212) 766-3788. Three hundred registrants. A BBS for law-related material. Sysop: Rees Morrison.

RadNET OnLine Services 24 hrs. Online computer network for Nuclear Medicine professionals. Offered through Compuserve. Regular on-line conferences. Call for information and registration. Voice phone: (212) 856-6449.

213

Ashton-Tate Support. (213) 538-6196. Free technical support, answers to questions about Ashton-Tate software products.

Backroom BBS, (213) 420-7622, 8-N-1, 24 hrs., 300/1200/2400/9600. Very Mac, also Apple II and MS/DOS. Direct access to Applelink, but not by user.

Beaver Creek. (213) 437-1410. 8-N-1 All but 4-9 PM. Sysop: John Campbell

Beta RBBS. (213) 393-9777. 1200/2400. Free entertainment BBS. Audio, video, DJ, music, movies, news and discussions. Sysop: Jason Lin.

Career-Point Information (CPI), (213) 423-4999, 24 hrs., 10 lines on rotary. CD-ROM, INFO-MAT Magazine, USA TODAY, Writer's Board, Online Shopping and CHAT. "Where the professional & BBSing come together!" Over 1400 active users. Sysop: Mark E. Bishop. Voice: (213) 428-0363.

Chat Line. (213) 534-4311. Multi-line, Multi-user interactive group & private forums. Downloads, Database.

David's Amazing BBS. (213) 459-5891. Conferencing (like the Well, but easier to use). Electronic bar; talk; matchmaking; 5 lines; unique software. Sysop: David Dennis

Dial-Your-Match. (213) 461-9899. Hollywood. (213) 467-6776. Hollywood. (213) 539-2448. Lomita. (213) 633-4349. Downey.

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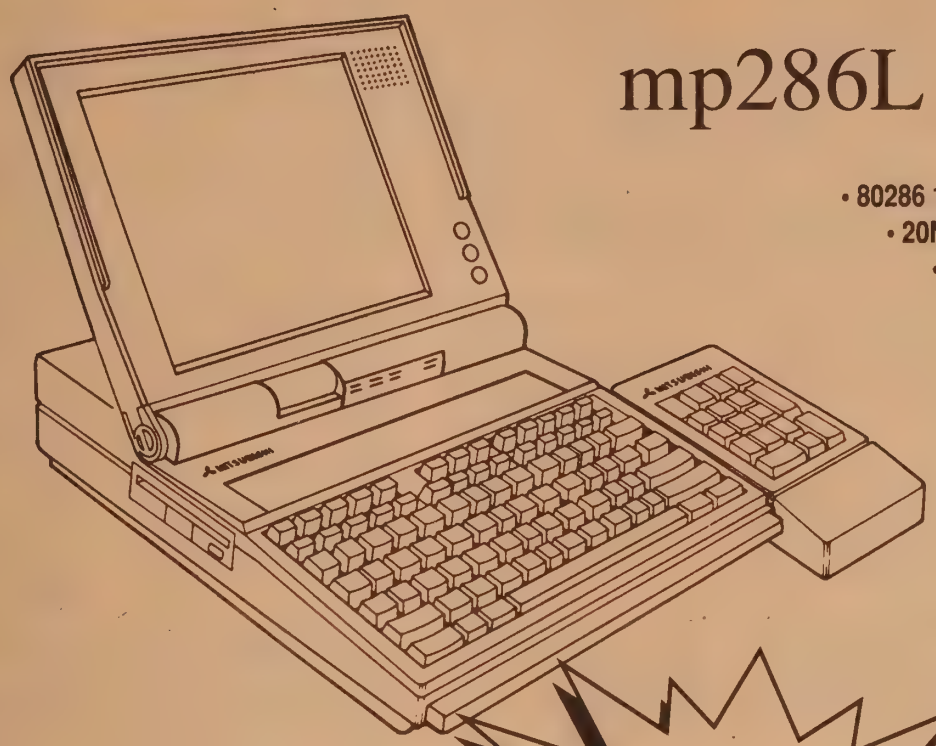

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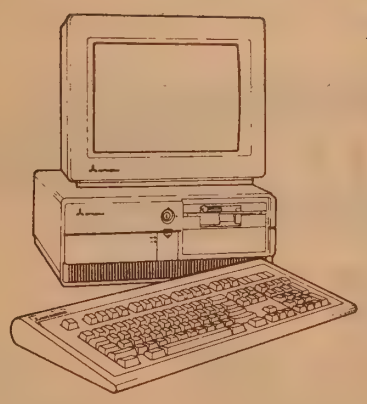

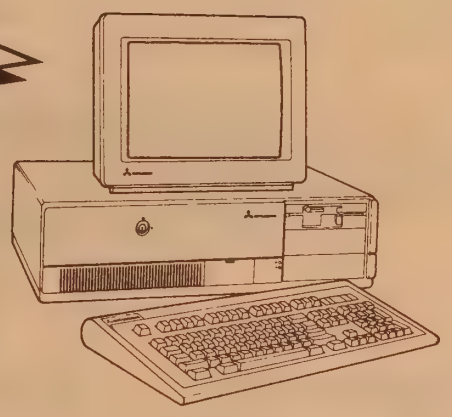

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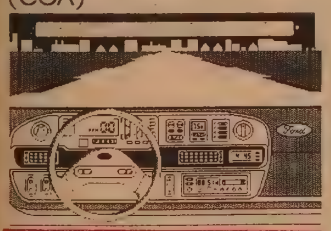
KID-GAMES (GAM8) Animals math, clock game, alphabet, etc.
CHESS (GAM9) Incredible. 2D and 3D. Many levels. Play back moves, store games.

EGA RISK (GAM11) World domination in great color. Includes EGA Asteroids.
PC PRO-GOLF (GAM27-28) Great graphics. Complete 18 hole, 72 par course. (CGA)
PEARL HARBOR (GAM32) Shoot down Jap Zeros before they destroy U.S. Fleet. (CGA)
ULTIMA 21 DELUXE (GAM34) Best Blackjack game around. Includes Video Poker.
FORD SIMULATOR (GAM37) Great driving simulation. (CGA)



MUSIC

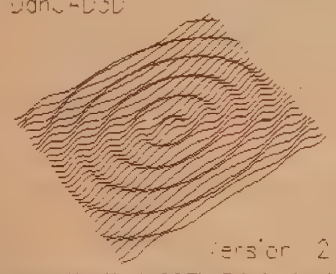
PIANOMAN 3.2 (301) Turn your keyboard into a piano.
PC-MUSICIAN (302) Compose, save, and play music.
CHRISTMAS SONGS (311) Play your favorites on a PC.

WORD PROCESSING

PC-WRITE 2.71 (401-402) (2 disks) Latest version of this popular program w/spelling checker.
PC-TYPE+ (421-423) (3 disks) Excellent. Includes mail merge, 100,000 word spelling checker. Interfaces with PC-File+, PC-Style.
MAXI-MAX (432) 59 macros to use with Word Perfect 4.2 or later. 11 templates for forms, border designs, etc.

GRAPHICS

KEYDRAW CAD SYSTEM (1001, 1002, 1065) (3 disks) Popular. Also uses mouse. (Requires color graphics - CGA.)
DANCAD 3-D (1051, 1052) (2 disks) Create 3-D graphics. Rotate, magnify, etc. Runs on CGA, EGA, or Hercules.



SIDEWAYS (1007) Prints text sideways. Useful for spreadsheets.
SIMCGA/HGCIBM (1027, 1062) (2 disks) Use with Hercules graphics card/ compatibles to run programs requiring CGA on your monochrome PC.
IMAGE 3-D (1048) Create and edit 3-D objects. Move, scale, rotate and tip image.
FINGERPAINT (1050) Use keyboard or mouse to draw. Like MacPaint. (Requires CGA or EGA.)
FANTASY (1057) Create flowing graphic images with mouse or keyboard. (CGA).
FLOWCHARTING (1078-1079) Complete system for flowcharts, organizational, electrical, etc., with symbols.

RELIGION

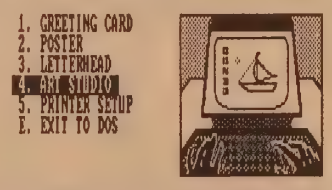
THE BIBLE (3301-3306) (6 disks) Old Testament, King James version.
THE BIBLE (3307-3308) (2 disks) New Testament, King James version.
WORD WORKER (3309-3310) (2 disks) Bible search program. New Testament, King James version.
BIBLEMEN (3330) Excellent Bible quiz program.

BASIC

PC-PROFESSOR (1401) BASIC tutorial. Good.
BASIC PROGRAM GENERATOR (1402) The menu driven way to write programs.
B-WINDOW (1407) Give windowing capabilities to your Basic program.

UTILITIES

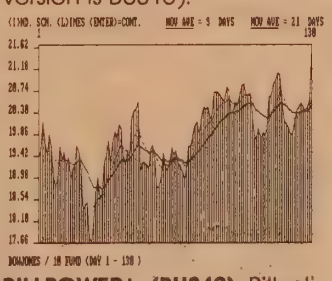
HOMEBASE (2608, 2612, 2613) Complete desktop organizer. Great!
LIGHTNING PRESS (2718) Printshop clone. Includes graphics for many uses.



PROFESSIONAL MASTERKEY (2805) Like Norton's. Retrieve deleted files. A lifesaver.
BAKER'S DOZEN (2821) 13 utilities from Buttonware.
AUTOMENU (3003) Make PC menu driven. Incl. passwords.
SCREEN (3006) Save your monitor from screen burn-in.
DOT MATRIX FONTS (3061-3062) (2 disks) Print your text in different fonts. Works with most printers.

ACCOUNTING/FINANCE

MARKET CGA (BUS17) Performs sophisticated analysis on stocks, funds, etc. (EGA version is BUS16).



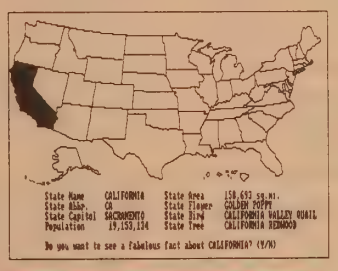
BILLPOWER+ (BUS40) Bill clients for time and materials, advances, retainers, etc. Computes taxes, past due interest, etc. Has full G/L.
CPA LEDGER (706-708) (3 disks) Complete general ledger for corporations, partnerships or sole proprietors.
PERSONAL FINANCE MANAGER (715) Household budget manager. Keep track of checking, savings, investments.
PAYROLL USA (725-726) Up to 2,000 employees in any state. dBaseIII and Lotus compatible. Complete P/R system.
EXPRESS CHECK (786) Check acount with running balance, monthly reports, etc. Prints checks.
FINANCE MANAGER II (774-775) (2 disks) For personal or small business financial management.

SPREADSHEETS

AS-EASY-AS (505) Great. Includes screen help menus. Utilizes function keys. A Lotus clone that reads Lotus files.
PC-CALC+ (512-514) (3 disks) Jim Button's famous Lotus clone.

EDUCATION

FUNNELS AND BUCKETS (201) A fun way to learn math.
MATHPAK (202) Tutorial with lessons in higher math.
PC-TOUCH (204) Learn typing.
BASIC TUTORIAL (208) Learn programming with BASIC.
BEGINNING SPANISH (211) Tutorial.
SPANISH II (232) Sequel.
BIBLEQ (214) Learn the Bible with this Q-A tutorial.
FACTS 50 (239) Geography lessons for U.S. Nice graphics.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State Capitol SACRAMENTO
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State Area 158,693 SQ.MI.
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State Bird CALIFORNIA VALLEY QUAIL
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LOTTO PROPHET (2364) Best Lotto program we've seen.
CITY DESK (2513) Simple desktop publisher.

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LOTUS MACROS (601) Save hours of work. (Req. Lotus)
LOTUS SPREADSHEET TEMPLATES (602) Ready-made. (Requires Lotus 1-2-3)
GOAL-SEEKER V3.5 (624) Achieve objectives by changing spreadsheet variables and seeing result. (Requires Lotus.)
LOTUS TUTORIAL (630) Learn Lotus (requires Lotus).

DOS

DOS TUTORIAL (1301) Teaches you to use DOS.
STILL RIVER SHELL (1304) Run DOS commands from a menu. Makes DOS easy.
BATCH FILE TUTORIAL (1305) Utilize batch file processing.
MORE DOS TIPS (1318, 1323) (2 disks) More about DOS.
HELP DOS (1326) On line DOS help with menus. Includes DOS dictionary of terms and a hints menu.

TELECOMMUNICATIONS

Q-MODEM 3.1 (1101, 1102, 1144) (3 disks) Powerful but easy to use. Fast.
RBBS V16.1A (1107-1109, 1150) (4 disks) Multi-user BBS.
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ABACUS - Atari Bay Area Computer Users Society. (415) 587-8062. 300/1200 24 hrs. Free messages and downloads for 8-bit & ST users. Sysop: Ed Van Pelt

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Amiga Addicts Anonymous (AAA). (415) 222-9416. 300/1200 24 hrs. Amiga Chat & Pub. Dom. files. Sysop: Randy Spencer

AnswerLine FIDO. (415) 365-3436, 300/1200/2400, 8-N-1, 24 hrs. 70Mb of files for IBM, Macintosh, Apple II GS, Amiga. International FidoNet mail. Sysop: Gary Klein.

Askkey XPress BBS. (415) 657-1728. 8-N-1, 24 hrs., 300/1200. 20 megs Apple II files plus rotating 800K archives, email, online games, polls, BBS databases, many subboards. Free! Sysop: Dan Gilbuena.

AUGment - Amiga Users Group of Silicon Valley. (415) 659-9169.

AutoCAD RBBS (415) 547-5264 24 hrs. The largest private AutoCAD bulletin board in the United States, online since October '85 with over 20 megs of downloadable files and a fast moving message area. Sysop: Off Broadway Business Systems. Voice Phone: (415) 547-8801.

Back Door. (415) 756-6238. 300/1200/2400 8-N-1 24 hrs. Alternative lifestyles information. IBM clone library. Voice validation required for access.

BAHUG. (415) 365-7836. 8-N-1, 24 hrs., 300/1200/2400. Free board, validation automatic with sign-on. Bay Area Heath User Group. BBS. Sysops: Ed Hayes, John Allen.

BAKUP RBB. (415) 849-9389. 24 hrs. Sysop: Woody McPheeters.

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Drager & Mount. (415) 966-1054. 8-N-1, 24 hrs., 300/1200/2400. Desktop publishing files, templates, utilities, Linotronic output. Sysop: Michael Aaron.

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Easy Access BBS. (415) 829-6027. 300/1200/2400 8-N-1 Sysop: Tony Waddell.

Emerald Lake Fog #48. (415) 361-1847. 300/1200/2400/9600. General info. DOS and CP/M. 232 MB. Wildcat BBS. Sysops:Dick Worth and Doug Spence

Epson Users of SF Bay Area. (415) 467-2780.

Epyx On-Line Service Center. (415) 364-0281, 8-N-1, 300/1200. Information on Epyx' products and services. Technical support, warranty and update information, on-line catalog, game hints, product release date announcements, new product info, beta test info, market research studies, and upcoming contests! Sysop: Epyx.

Everex Technical Assistance BBS. (415) 683-2924. 300/1200/2400 8-N-1 24 hrs. For Everex products. Oriented toward helping programmers write software that takes advantage of Everex's special features.

Family Radio Forum - (415) 562-5483. 300/1200/2400 8-N-1 24 hrs. Download pub. software & entire bible texts. Echo conferences on parenting, teens, singles, etc. Christian BBS for all. Sysop: Richard Yim

File Exchange. (415) 647-0505. 300/1200 8-N-1 24 hrs. MAC-based, mostly MAC but other types of computers welcome. Discuss problems & tips related to various programs.

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GE#6 - COMPUTER SOLITAIRE: Klondike Spider and Canfield solitaire CGA req'd

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AD#2C - PIN-UPS #3 Voluptuous vamps to view & print!

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AD#3B - XXX PRINTSHOP GRAPHICS: 60 XXX images for Printshop.

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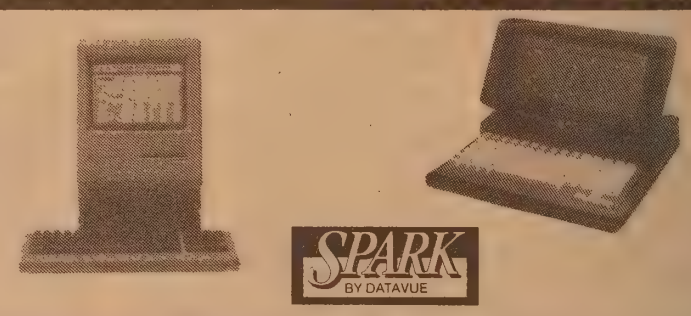

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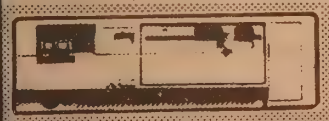

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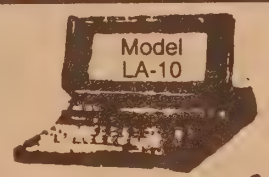

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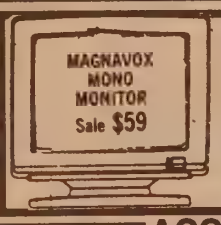

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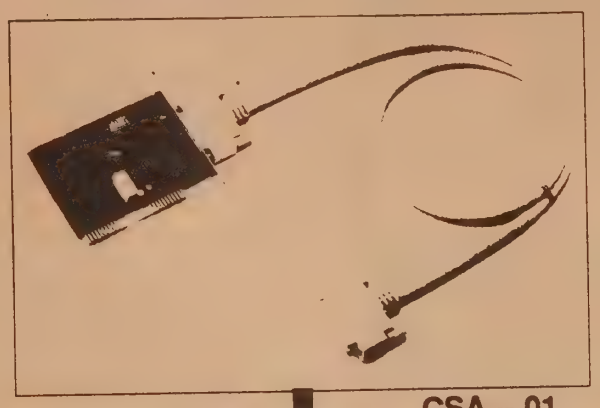

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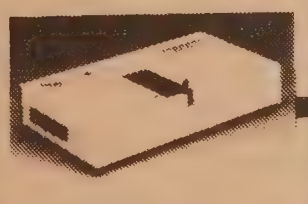

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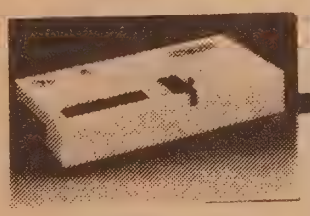

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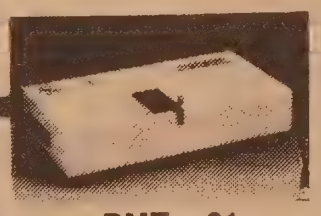

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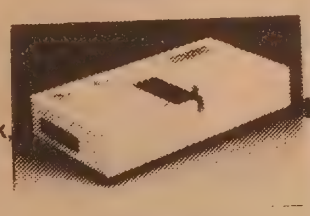

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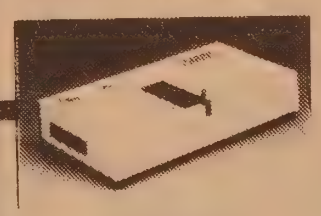

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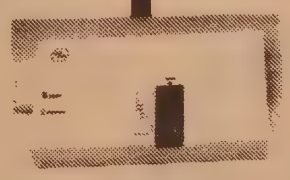

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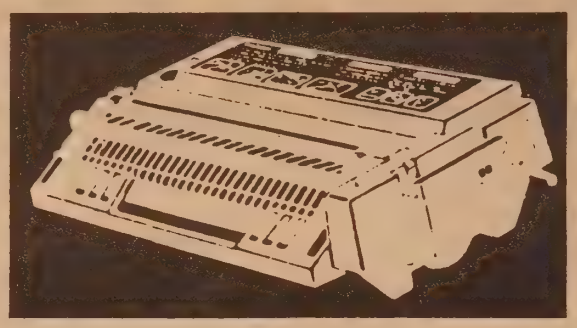

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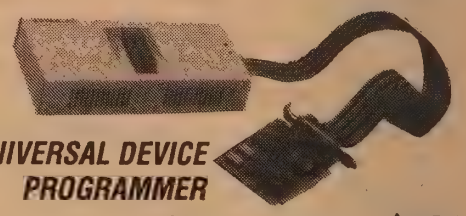

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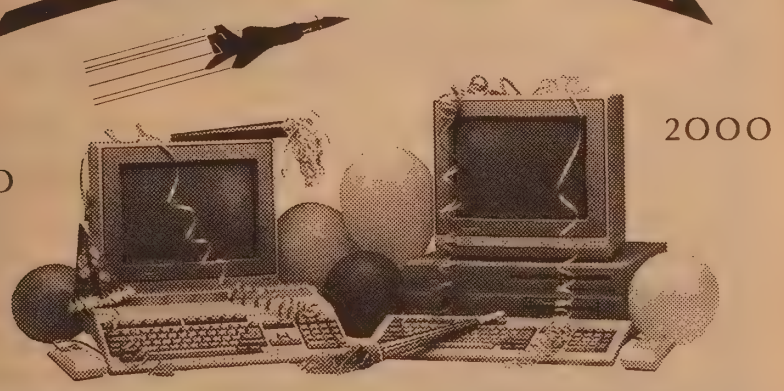

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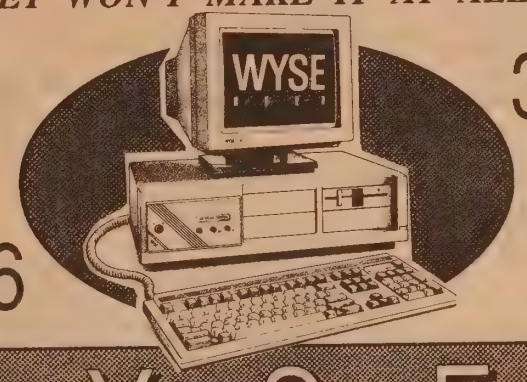

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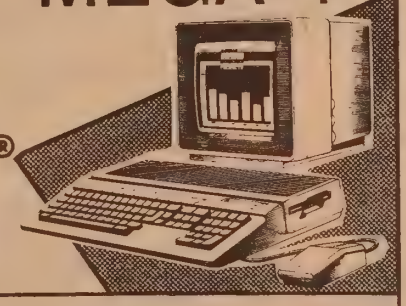

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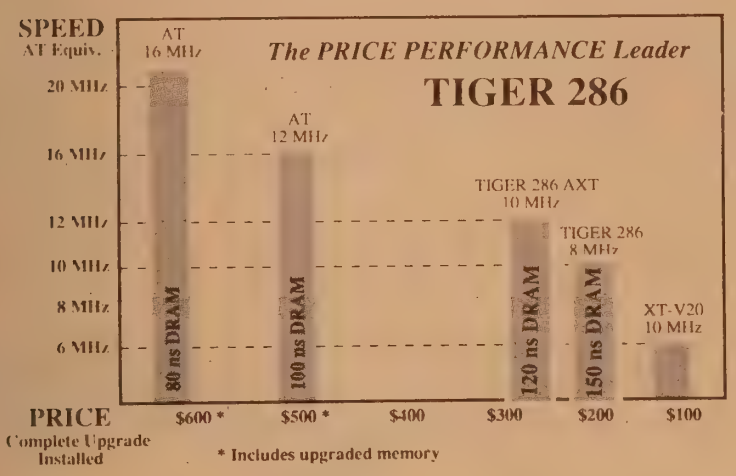

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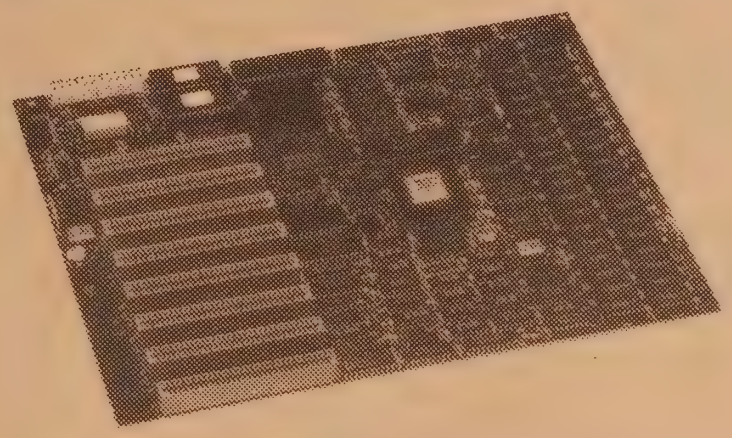

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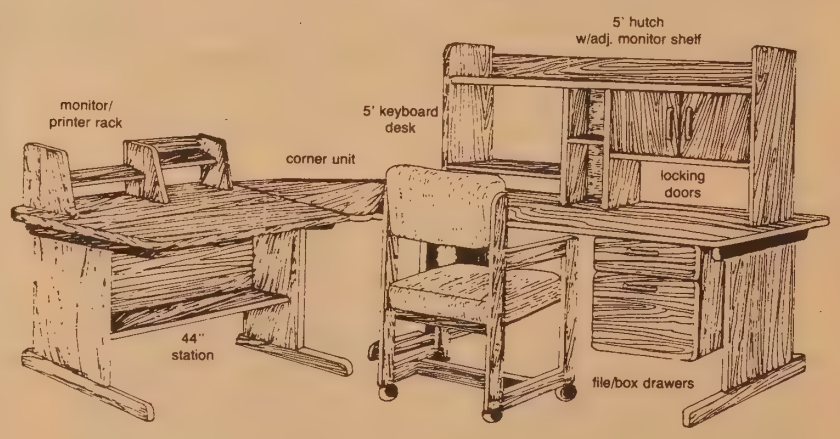

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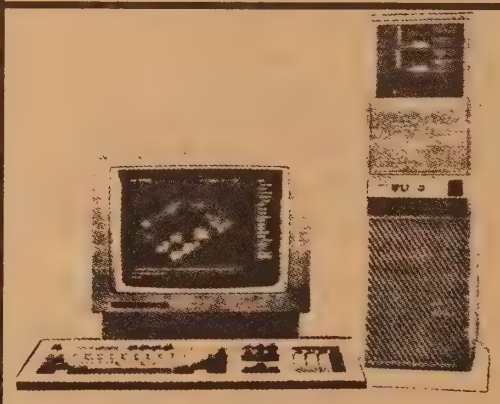

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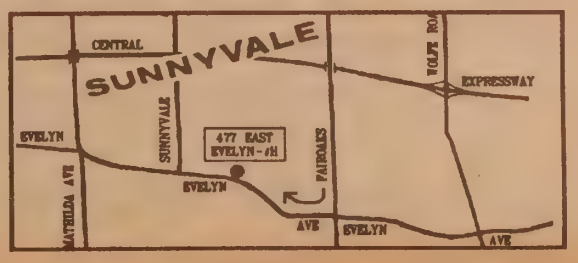

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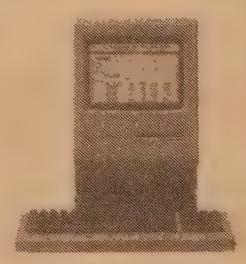

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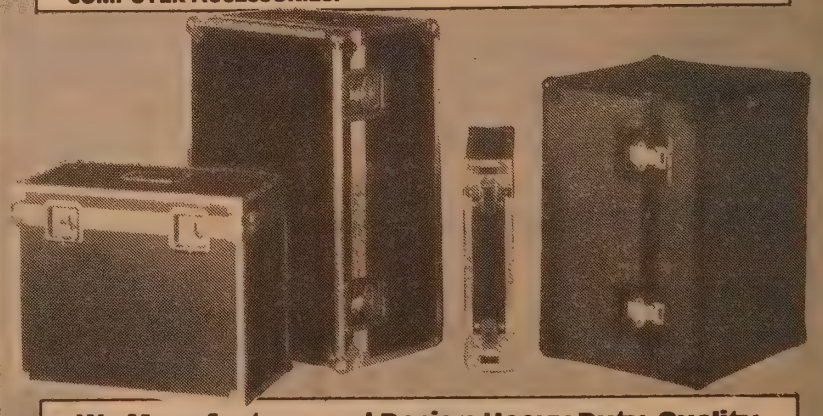

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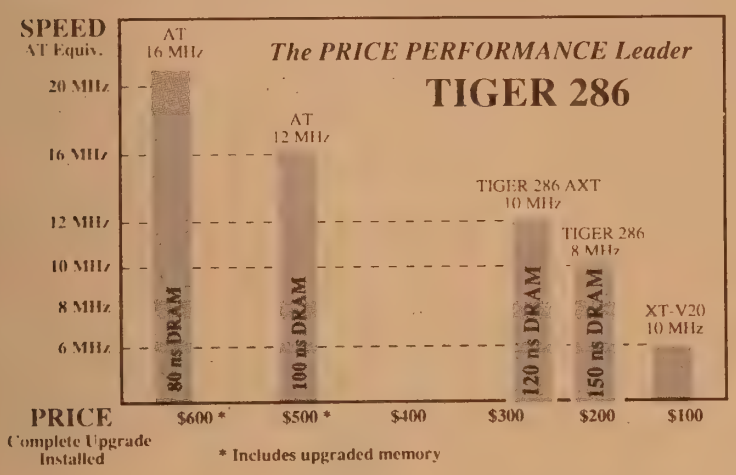

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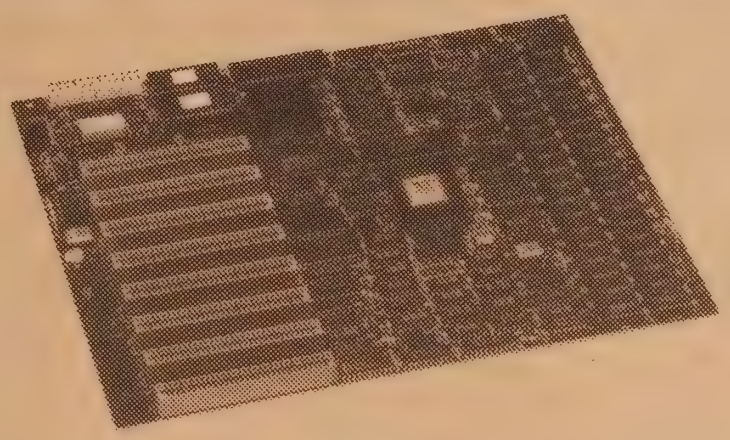

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Artificial Intelligence Special Interest Group (AISIG). Call Rita Zokaei, (415) 574-8225.

Association for Women in Computing. Meetings: 1st Wednesday of each month, 6:30 PM, Stagecoach Restaurant, 44 Montgomery St., San Francisco. Call 655-3110 for information.

BAY HPX. Meetings: 2nd Saturday Laptop & handhelds. Call Jim Horn or Michael Felsenstein: (707) 794-3130/(415) 564-8279.

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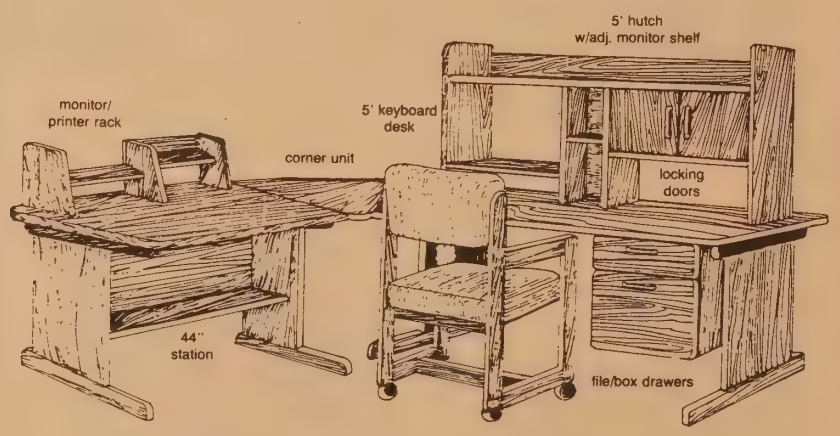

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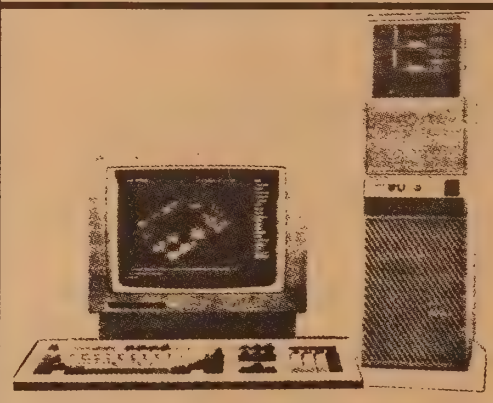

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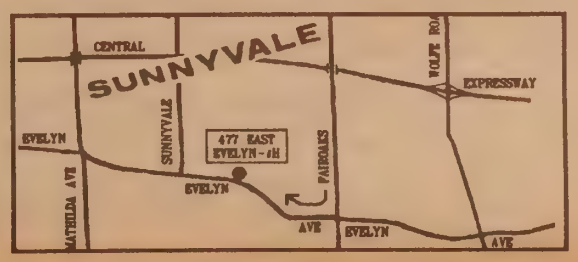

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Business Computerization User Group. Group forming. Write 6938 Buckingham Blvd., Berkeley, CA 94705, or call (415) 848-2080.

California Genealogical Society Computer Interest Group. Meetings: 2nd Sat.- odd months Genealogical Society Library, San Francisco.

COBOL And SQL Users Club Call: Dr. Badshah K. Mian, (415) 337-1787.

Computer Associates Users Group Meetings: 3rd Wednesdays. Gateway Holiday Inn, San Francisco. Call: J.C. Lukrich & Co, (415) 864-6770.

Computer Associates Users Group. Meetings: 3rd Wednesdays, 6:30 pm, 1500 Van Ness Ave., Call: Brenda Goldstein, (415) 864-6770.

Computers & Law Assoc. Meetings: McGeorge School of Law, 3200 Fifth Ave., Sacramento, CA 95817.

CYMA/McGraw-Hill Users Group Meeting. Meetings: Monday, October 24, 3:00-5:00 pm, McGraw-Hill Publications Building, 425 Battery St., San Francisco. Meet CYMA professionals and learn how to get the most from your software. Call: (415) 839-7466.

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Entrepreneurial Support Group. CEO. Meetings: SASE, P.O. Box 2781, San Rafael, CA.

Ham Radio Computer Packet Group. Meetings: 2nd Fridays, 8 pm, Salvation Army, 4600 Appian Way, El Sobrante. Learn how to use your computer to broadcast all over the world with the fascinating world of Ham Radio. Call: Bob Fields, (415) 237-3761.

High Tech Gays. Meetings: 2nd Sundays, Part of the National Gay & Lesbian Task Force. Call: (408) 993-3830.

High Technology Entrepreneurial Council. Meetings: Wednesdays, 6:30 pm, Piedmont Community Center, 711 Highland Ave., Piedmont. HTEC is a nonprofit corporation dedicated to providing software developers and other high tech entrepreneurs a forum for developing marketing strategies, building business relationships and exchanging experience and information. Call: Rachel Munoz, (415) 339-3895

MIDICRUZ Computer and Music Users. Meetings: 1st Thurs., 7:30 PM, 200 Seventh Ave., Suite 225, Santa Cruz, CA 95062. Contact Robert at (408) 476-8464.

MORE: Modemusers Of The Redwood Empire. Meetings: Thurs. July 14; Fri. Aug. 9; 7 PM, Roundtable Pizza, Highway 12 @ Stony Pt. Free membership for modemers who want to get together and talk about local boards. Includes novices to techno-wizards. Call (707) 546-5203.

Mt. Diablo Technology Association. First meeting: Wednesday, Sept. 14. Others monthly at Michael's Restaurant in Walnut Creek. Lunch and evening meetings, send for calendar. Back by popular demand. Will explore common concerns in industry and educational developments. Call: Deborah Scott, (415) 932-4828

Network Users Group (NUG). Next meeting: July 7. Call for location and time. Panel discussion of workgroup software with several major software manufacturers represented. Call (415) 655-6500 for details.

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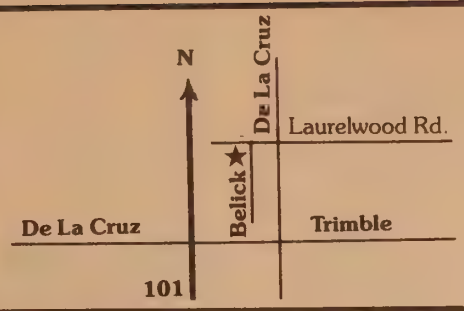

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Prolog Forum. Meetings: Monthly, 2nd Thursday 7:00 PM, Belmont and various locations. Prolog Forum is a group dedicated to supporting users of the Prolog computer language in artificial intelligence. Call Mark A. Epperson at (415) 594-9981.

ProTel (Professionals In Telecommunications) Meetings: Monthly. Holiday Inn, 1221 Chess Drive, Foster City. ProTel is a network organization for people interested in telecommunications.Leave a message at (415) 227-5637 for information.

SEF Marketing SIG. Meetings: Oct. 27—Telemarketing; Nov. 29—Teknowledge, 1850 Embarcadero, Palo Alto. Call: Don Morrison, (415) 8328-0356

SEF OOP SIG. Meeting: Third Tues. 7 pm, Parc Place Systems, 2400 Geng Rd., Palo Alto. Call: Dean Ritz, (415) 859-1043.

SF Robotics Society. Meetings: 2nd Mon. Homestead Savings, Community Hall, 5757 Geary (at 22nd), SF. Guest speaker, developers' roundtable.

Silicon Valley Computer Society. Contact Kent Stafford (408) 286-2969. Or write to 2464 El Camino Real #190, Santa Clara, CA 95051.

Silicon Valley Techno—Musicians Network. Computers, MIDI, electronic/computer music, home studios, all experience levels, all computers, all musical styles welcome. Call: Bob, (408) 733-3429.

Software Entrepreneur's Forum (SEF). Meetings: 3rd Thurs. 1875 Embarcadero Rd., Palo Alto. Helps individual software developers and startup software companies. Call for complimentary newsletter. (415) 854-7219.

Technology Executive Roundtable (TER) Meetings: Fourth Tuesdays, 6:00 pm, Santa Clara.Call: Jenny Hoyt,(408)997-1826.

The Hispanic Computing Association. Meetings: 3rd Thursdays, DataDesigns/American Music, 2388 Mission St., SF. Spanish/English Computer Information, PC & Mac presentations and solutions. Call: Juan Lira, (415) 824-8337.

The Society For Technical Communication. Meetings: 1st Wed. 7:00 PM Room #3, SMUD Facilities, corner of Elkhorn and Don Julio, Sacramento. Devoted to the advancement of the theory and practice of technical communication.

Valley of the Moon Users Group. Meetings: 2nd Saturdays monthly, 10:00 AM, Moose Lodge, Sonoma. All systems welcome. BBS, 300 BAUD, 24 hours, (707) 996-7922.

Women's Special Interest Group. 7:30 pm, Hewlett-Packard, 5301 Stevens Creek Blvd., Santa Clara. For all women interested in computing. Call: Rita Zokaei, (415) 574-8225

USER GROUPS

AMIGA

ACCESS (The Amiga And Commodore Computer Enthusiasts Society). Meetings: 3rd Tues. 7:30 PM Community Room of Homestead Savings & Loan, 999 E. Stanley Blvd., Livermore, CA. Contact Ron Kremkow at (415) 449-1784.

Amiga Addicts Anonymous. Meetings: Newsletter, public domain library, demonstrations. Write PO 4669, Walnut Creek, CA 94596. Call: 689-3453

Amiga East Bay Info Exchange (AEBIE). Meetings: 2nd Tues. 7 to 9 PM 11185 San Pablo Ave., in El Cerrito. Write to P.O. Box 485, Pinole, CA 94564.

ASCITEC: The Amiga Science & Technology Users Group. Meetings: 2nd Thurs. 5-7 PM Lockheed, B/157, Rm. 4-C, Sunnyvale, CA. Scientific/Video Applications. Classes available.

AUGment - Amiga Users Group of Silicon Valley. Meetings: 2nd Fri. Write to P.O. Box 1863, Fremont CA 94538 for more info.

Bay Area Amiga Developers Group (BADGE). Meetings: 3rd Thurs. 8 PM Turing Auditorium, Stanford University, Stanford, CA. For all Amiga programmers. No membership fee.

CWEST Bay Area Commodore Users Group. Meetings: Third Thursdays, 7:00 PM, EFort Mason, Bldg. C, Rm. 215. Support C-64/128 and Amiga. New Users welcome. Write PO 146731, San Francisco, CA 94114-6731.

Northern California Amiga Club. Meetings: Second Saturdays, 2 pm, Rico's. Supports Amiga. Write: PO 54, Bella Vista, CA 96008.

SMAUG (Salinas-Monterey Amiga Users Group). Meetings: 3rd Tues. at 7 PM, Seaside Library, 550 Harcourt Ave., Seaside, CA. Write PO 776, Castroville, CA 95012 for call Richard Binsacca at (408) 678-2518.

SVAUG-Scotts Valley Amiga Users Group. Meetings: 2nd Thursday, 7:00 PM. The Computer Room, Kings Village, Scotts Valley.

Vallejo AMiga People (VAMP). Meetings: 2nd Tues. 6:30 PM Software 1st, Vallejo Corners Shopping Center. Contact Bill Braun at (707) 554-0263.

AMSTRAD

North American Amstrad Users Group (NAAUG). National User group. For info send S.A.S.E. to NAAUG, P.O. Box 2178, Ferndale, WA 98240.

APL

APL Bay Area Users' Group. Meetings: 2nd Monday, 6:30 PM, I.P. Associates, 425 Sherman Ave., Suite 200, Palo Alto.

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B.E.A.R. Apple II National Users Group. Meetings: send S.A.S.E. to B.E.A.R., 4719 Meridean Ave. #401,San Jose 95118. Printshop & Appleworks files, monthly newsletter.

Diablo Valley Apple Users. Meetings: 1st & 3rd Fri. 7 PM Willow Creek Ctr., 1026 Mohr Lane, Concord, CA. SIG's meet monthly. Featuring library of pub. domain software & club's DOM's. Newsletter, demos, group buys hard/software.

GravenStein Apple IIGS Users Group. Meetings: 3rd Saturdays, 10:00 AM, Coddingtown Mall, Santa Rosa. User group to explore new and existing programs and uses for the IIGS, to order equipment and material as a group for quantity discounts and to encourage the use and development of the IIGS among current, new and potential users. Call: Aaron Lamar, president, 938-8479.

San Francisco Apple Core. Meetings: 3rd Saturdays, 10 am, Daly City Library, 40 Wembley. BBS, SIGS, PD/SW library, Help List, Newsletter, more. Call: 398-2335/771-5830.

San Leandro Apple User Group. Meetings: 1st Thursdays, San Leandro HS, Rm. 213. New owners to experienced users welcome. AppleWorks, software and telecommunications SIGs meet monthly. Call: (415) 483-6046.

Society For The Prevention Of Cruelty To Apples. Meetings: 2cnd Wednesdays, 7:30 pm, Fremont Main Library, 39770 Paseo Padre Pkwy. Call: Dean Fern, (415) 537-3439.

Tri Valley Apple II Users Group. Meetings: 1st Thurs. 6:30 PM. Call Esther Farnstrom at (415) 829-3672 or Dan Balsey at (415) 828-6237 for meeting location.

ATARI

ABACUS (Atari Bay Area Computer Users Society). Meetings: 1st Saturdays, 19th Ave. Diner, 19th & Lincoln Aves., SF. Open to all Atari XL/XE and ST users. $20/yr. Call: (415) 753-8483.

Bay Area Atari Users Group (BAAUG). Meetings: 1st Mon.

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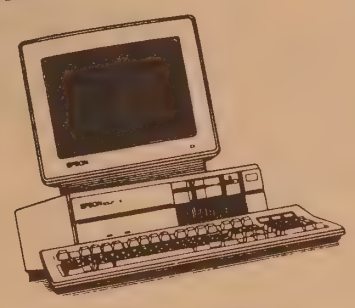

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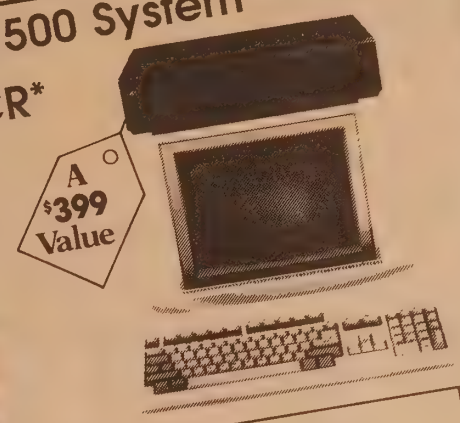

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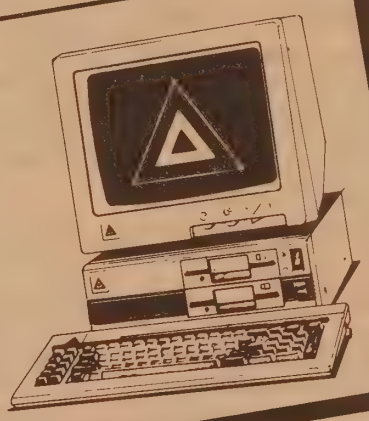

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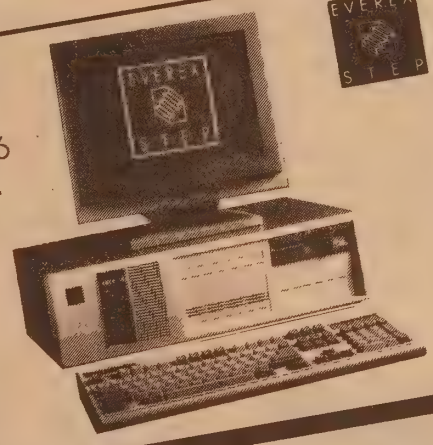

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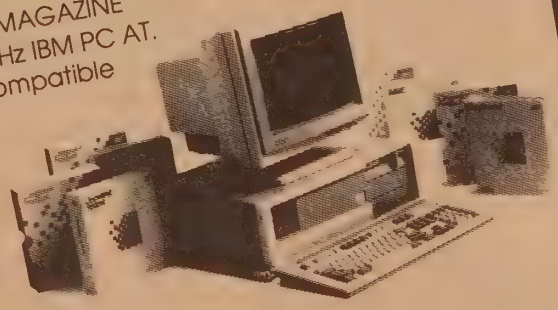

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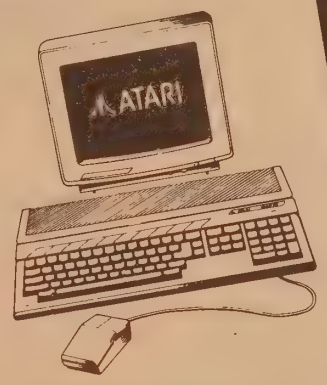

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COAST (California Original Atari ST Users Group). Meetings: 3rd Wednesdays, 7 pm, 2105 Bancroft, Berkeley. Call: (415) 945-1949.

San Leandro Computer Club. Meetings: 1st Tuesdays, 8 pm, San Leandro Community Library. BBS's: (415) 352-58118 & 7887-2008.

AT&T

Bay Area AT&T PC Users Group - South Bay. Meetings: 2nd Wed. 6:30 PM AT&T Bldg., 1090 E. Duane, Sunnyvale, CA. Call: Joe Lipsig (408) 733-6522. BBS: (408) 462-6329.

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Diablo Valley CUG. Meetings: 2nd Thurs. 7:30 1331 Concord Ave. For info write: Box 27155, Concord, CA 94527. Or call (415) 932-2413.

F.U.N.H.U.G. - Fremont, Union City, Newark, Hayward User Group. Meetings: 3rd Thurs. 7:30 PM Newark Public Library, 6300 Civic Terrace Ave., Newark, CA. A user-organized, user-operated user group not affiliated with any computer or software manufacturer or distributer.

Fairfield Commodore User Group. Meetings: 1st & 3rd Mon. Solano County Education Bldg. Write to P.O. Box 2778, Fairfield, CA 94533-9998 for info.

Marin Commodore Users Group. Meetings: 2nd Wednesdays, Redwood High. Call: 883-7748; BBS 883-2558—300/1200.

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San Jose Chapter of 64/More Commodore UG. Meetings: 1st. Sun. BBS (408) 946-6154.

Silicon Valley Commodore Club. Meetings: 4th Wed. 7 PM Hewlett-Packard, 5301 Stevens Creek at Lawrence & 280. C-64, C-128, & Amiga.

dBASE

dBASE Users Group of Marin & Northbay. Meetings: monthly, call (415) 488-0342 for info. Open membership, beginners through developers.

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Diablo Valley PC Users Group. Meetings: Walnut Creek, CA. Write: P.O. Box 8040, #117, Walnut Creek, CA 94596.

East Bay Fog. Meetings: Monthly meetings, Apostleship of the Sea, 600 Terminal St., Oakland. Newsletter, BBS. Call (415) 272-9099 for more info.

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Financial SW SIG/SFPCUG. Meetings: 3rd Mondays, 7 pm, Rm. 1, Bldg. A, Fort Mason Center, SF. Call: Nick Maffei, (415) 668-2456.

FUNHUG—PC. Meetings: 3rd Wednesdays, 7:30 pm, Fremont Library, 39770 Paseo Padre Parkway, Fremont, in the Meeting Room. Mainly just the MS and PC DOS world. Send SASE to Russ Fischer, 2792 Arlington Place, Fremont 94555.

IBM & Compatibles Users Group (ICUG). Meetings: A mail-based user group with possible meetings. Not for PCjrs. $8/yr. Write: Dan Tuma, 30 Arjang Ct., Alamo, CA 94507-2041.

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IBM Technical SIG/SEF. Teknowledge. Call for dates and time. Call: Mike Schmit, 244-6826.

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Marin-Sonoma PC Users Group (MSPCUG). Meetings: Last Tuesdays, Tamalpais Ave. & 3rd Ave., San Rafael Whistlestop Bldg. Call: (415) HAWK.

Mid-Peninsula IBM-Club. For IBM employees only. Call Scott Maiden for info: (415) 855-4509.

Modula-2 SIG/SFPCUG. Meetings: 3rd Thursdays, 7:30 pm, Call: Richard Lesnick, (415) 398-3587.

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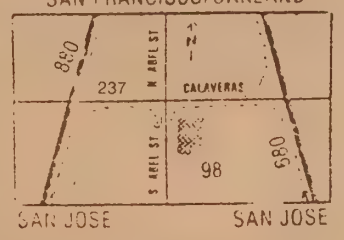

such UNIX versions as Microport, XENIX and Minix. Starting a library of public domain source code. Call: Dan Kionka, (408) 432-1300.

Sacramento PC User Group. Meetings: For information call Jackie Janssen at (916) 383-6900.

San Francisco Computer Society. Meetings: 1st Mon. 7:00 PM. Homestead S&L, 5757 Geary Blvd., San Francisco. MS-DOS machines, Osborne, Kaypro, Morrow. Call Ralph Gallagher 929-0252.

San Francisco PC Users Group. Meetings: 3rd Mondays, 8 pm, Rm. 1, Bldg. A, Fort Mason Center, SF. Call: (415) 221-9166. BBS: (415) 621-2609.

San Francisco PCjr Users Group (SFPCjrUG). Meetings: First Sundays. 7:30 PM, Homestead Savings, 22nd Ave./ Geary, San Francisco. Demonstrations and discussions, club library, disks for sale. Call: John King, 472-7035

Santa Cruz Computer Society. Meetings: 3rd Thursdays. 7 PM, Santa Cruz County Office of Education, 809 Bay Avenue, Suite H, Capitola. Call: 479-1180.

Silicon Valley Computer Society. Meetings: 4th Wed. 7:30 PM Oak Room, at Hewlett Packard, on Pruneridge in Cupertino. Call Kent Stafford for info at (408) 286-2969.

Silicon Valley FOG. Meetings: 3rd. Wed. 7:30 PM Saratoga Community Library, 13650 Saratoga Ave.

Solano Community PC Users Group. Meetings: 3rd Monday, 7 PM, Fairfield High School.

Solomon User Group Of Silicon Valley. Meetings: Wednesday, August 10, 6:30 PM, Conveyor And Storage Dynamics, 2581 Leghorn St., Mt. View. Call Grihalva Associates, 39899 Balentine Dr., Suite 175, Newark, CA 94560; (415) 659-1515.

South Bay AT&T PC UG. Meetings: Call for info. Call (408) 226-0116

South Bay WordPerfect User Group. Meetings: Monthly, 13650 Saratoga Ave., Saratoga. Call: Martin Van Derpool, (408) 238-8434.

South County PC Users Group. Meetings: Round Table Pizza Restaurant, 22457 Foothill Blvd., Hayward. Call: R.A.McCloud, (415) 537-9899.

Teachers SIG/SFPCUG. Meetings: 3rd Mondays, 7:30 pm, Chancellor's Conf. Rm., UCSF, 3333 California St., SF. Call: Margaret Gwathmey, (415) 982-4221.

TRS Nybblers. Meetings: 2nd Friday, 8 PM, Chabot College, 2555 Hesperian Blvd., Rm. 600, Hayward. MS/DOS, CP/M, laptops, CoCo's, Mod 1, 3, 4; Mod 2, 12, 16, 6000. PD software education modules, problem solving committee.

Valley Computer Club IBM PC Users Group. Meetings: 3rd Wed. 6 PM Xerox Bldg. 475 Oakmead Pky, Sunnyvale, CA. $24/yr member. Monthly VPUG News, access rights to VPUG-SIG Advice on desktop pub. techniques, new products, bugs, etc.

WordPerfect SIG/SFPCUG. Meetings: 3rd Mondays, 7 pm, Chancellor's Conf. Rm., UCSF, 3333 California St., SF. Call: Debbie Foster, (415) 285-4534.

KAYPRO

BAKUP. Meetings: 3rd Tuesdays, 7:30 pm, Albany Senior Center, 846 Masonic Ave., Albany. Call: Bob Athey, (415) 526-3541.

Kay+Fun Peninsula Computer Club. Meetings: 7:30 PM, Social Room, 222 Laurel St., San Carlos. CP/M + DOS library. BBS: (415) 572-8219. Call: 593-9981.

San Francisco Computer Society. Meetings: 1st Monday, 7:00 PM, Homestead S&L, 5757 Geary Blvd., San Francisco CP\M and DOS machines. No BBS. Call Ralph Gallagher, (415) 929-0252 for information.

MACINTOSH

Bay Area MacForum. Meetings: 3rd Saturdays, noon, Daly City Library, 40 Wembeley. BBS, SIGS, PD/SW library, Help List, Newsletter, Newcomers Meeting, more. Call: (415) 771-5830/ 398-2335.

Berkeley Macintosh User Group (BMUG). Meetings: every Thurs. 6 PM Physical Sciences Lecture Hall, UC Berkeley Campus. SIG meetings on Mondays, Tuesdays & Wednesdays. Call for this week's topic. (415) 849-9114. BMUG, 1442A Walnut St., #62, Berkeley, CA 94709.

Christian Macintosh User Group, San Francisco Chapter. Meetings: 2nd Thurs. San Francisco. Newsletter and support available. Contact Rick Thrasher at (408) 437-1913. Bible Study and DTP SIGS.

Christian Macintosh User Group, Silicon Valley Chapter. Meetings: 1st Thurs. San Jose. Newsletter and support available. Contact Rick Thrasher at (408) 437-1913.

Desktop Publishing SIG/ GMUG. Meetings: 1st Tuesdays, 7 pm, San Francisco Business Times Building, 325 Fifth St., San Francisco. Call: 641-GMUG

Diablo Valley Apple Users. Meetings: 1st & 3rd Fri. 7 PM Willow Creek Ctr., 1026 Mohr Lane, Concord, CA. SIG's meet monthly. Featuring library of pub. domain software & club's DOM's. Newsletter, demos, group buys hard/software.

EBMUG (East Bay Macintosh Users Group). Meetings: 3rd Tuesdays, 7:30 pm, 724 Allston Way (@4th) near University Ave., Berkeley. Members receive free PD software. Bring blank disk. Meetings open to everyone. Call: Terry Pennington, (415) 486-0147.

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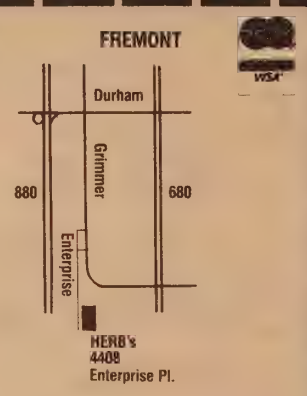

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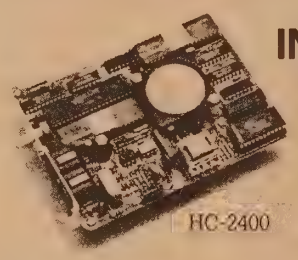

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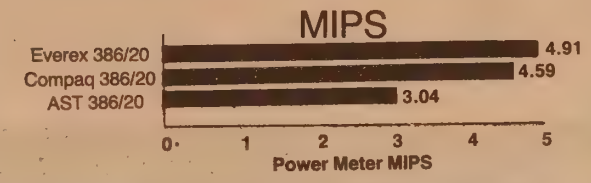

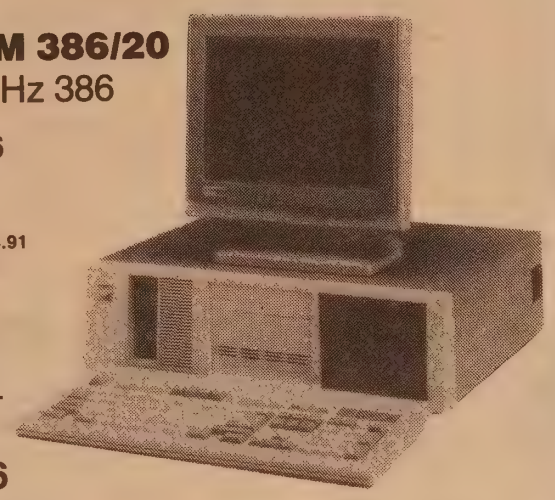

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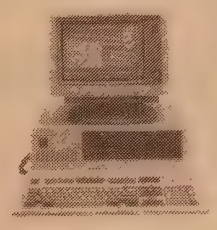

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GMUG (San Francisco's Macintosh User Group for Gays and Lesbians). Meetings: 3rd Wednesdays, 7 pm, UC-Berkeley Extension Annex, 1930 Market St., Rm., #2G. Call: 641-GMUG

HyperCard SIG/GMUG. Meetings: 7 pm, 78 A Mars St., San Francisco. Call: 641-GMUG

Mac Diablo Users Group (MDUG). Meetings: 3rd Tues., Community Room, Glendale Federal Savings, 3101 Crow Canyon Road, San Ramon.

MacCruisers — Santa Cruz. Meetings: 2nd Wed. Jade Street Community Ctr. at 45th Ave., Capitola, CA.

Macintosh SIG/SEF. Apple Cafeteria. Call for dates and time. Tony Meadow, 644-9400.

Macintosh Users Of ComputerWare (MUCoW). Meetings: 2cnd & 4th Wednesdays, 7:00 pm, Above ComputerWare store, 490 California Ave., Palo Alto. Call: (415) 496-1051 or 496-1033.

MacNexus — Sacramento's Macintosh Users Group. Meetings: 3rd Thurs. 6:30 PM Call (916) 446-2411 for info. 350 members, but still informal. Extensive public domain collection.

Macs Of Marin (MOM). Meetings: 2nd Thursdays, 7 pm, Redwood High School, 395 Doherty, Larkspur. Call: Steve Salzman, 459-5707.

Silicon Valley Computer Society's Macintosh SIG. First meeting: September 21, 7:30 pm, 6th floor offices of Arthur Young and Co., Mitsubishi/Plaza Bank Building, 55 Almaden Blvd., San Jose. A forum for shared ideas. First meeting will be a demonstration of HyperCard. Other demos are planned for future meetings. Call: Dennis Dawson, (408) 947-5550.

Stanford Macintosh Users' Group (SMUG). Stanford community membership: $25; public membership: $35 per year. Call: 723-SMUG. BBS: (415) 723-7685.

TI-West Meetings: 2nd Fri. 8 PM Chabot College, Rm. 600, 25555 Hesperian Blvd., Hayward, CA. Access to a variety of pub. domain software, education modules "problem solving" peripheral committee.

Tri-Valley Macintosh User's Group (TMUG). Meetings: 1st Thursdays, 7 pm, 4695 Chabot Dr., Rm 114, Hacienda Business Park, Pleasanton. Newsletter, large P/D library. Call: James (415) 426-8756 eves, Mike, (415) 838-6165.

MICROSOFT

Mac Diablo Users Group (MDUG). Meetings: 3rd Tuesday, 7:30 PM, Community Room, Glendale Federal Savings, 3101 E. Crow Canyon Rd., San Ramon. Small, helpful group.

Microsoft Flight Simulator Users Group. A mail-based user group with monthly newsletter. Members communicate through newsletter. $15/yr. Vincent Poy, c/o Microsoft Flight Simulator User Group, 895 Pacific Ave. Suite #638, San Francisco, CA 94133-4340.

Microsoft Word Users Group. Meetings: 4th Mondays, 7:30 PM - 9:30 PM, Hewlett Packard-Cupertino-Oak Room Bldg., 48 Pruneridge, 100 yds. est of Wolfe off Hwy 280. August 22: Chris Donner, Pres. Access Softek on DRAGNET for Text Retrieval and Management. Call: Bill West, 356-8805.

Mirosoft Word SIG of the SVCS. Meetings: 4th Mon. 7:30 PM Hewlett—Packard, Oak Room, Pruneridge at Wolfe, Cupertino. Contact Bill West (408) 356-8805 or Hunter Jackson (4080 446- 4097.

MINDSET

San Francisco Mindset Users Group. Call: (415) 626-4240.

MORROW

BAMDUA (Bay Area Micro Decision Users Assoc.). Meetings: 3rd Tues. 7:30 PM Albany Senior Center,846 Masonic Street (just north of Solano) in Albany, CA. Voice:(415) 534-4257. BBS:(415) 654-3882. P.O. Box 5152 Berkeley CA 94705.

San Francisco Computer Society. Meetings: 1st Mon. 7:00 PM. Homestead S&L, 5757 Geary Blvd., San Francisco. MS-DOS machines, Osborne, Kaypro, Morrow. Call Ralph Gallagher 929-0252.

NEC

Bay Area NEC/100 Users Group. Meetings: 1st and 3rd Thur. 7:30 PM Room 209C at College of Alameda. For those interested in laptops, especially Kyocera 80C85 type (NEC 8201a, Radio Shack Model 100 or 102. Call (415) 658-1889.

NOVELL

Novell Users Group. Meetings: Third Wednesdays, 6:30 pm, Coco's restaurant, 1305 South Mary, Sunnyvale. Newsletter, bulletin board, product demos, assistance for beginners. Call: Bill Strouse, 998-8821.

ORACLE

Northern California Oracle UG. Meetings: Call (408) 738- 8330 for info. Meets every 3 months at different Bay Area locations. Newsletter published between meetings.

OSBORNE

San Francisco Computer Society. Meetings: 1st Monday, 7:00 PM, Homestead S&L, 5757 Geary Blvd., San Francisco. CP\M and DOS machines. No BBS. Call Ralph Gallagher, (415) 929-0252 for information.

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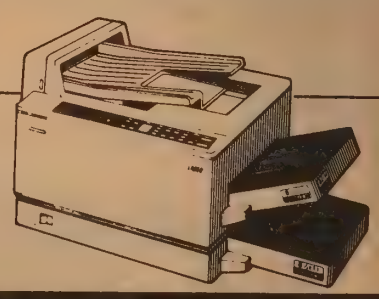

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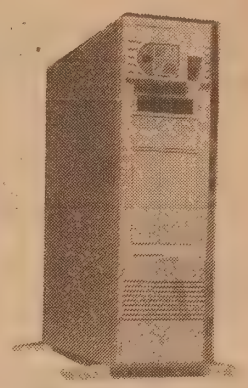

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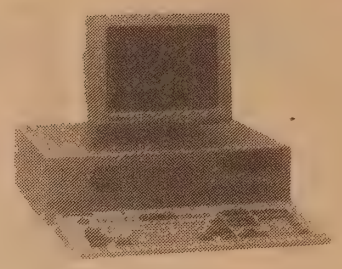

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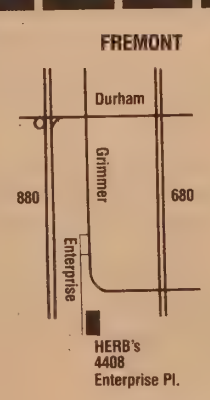

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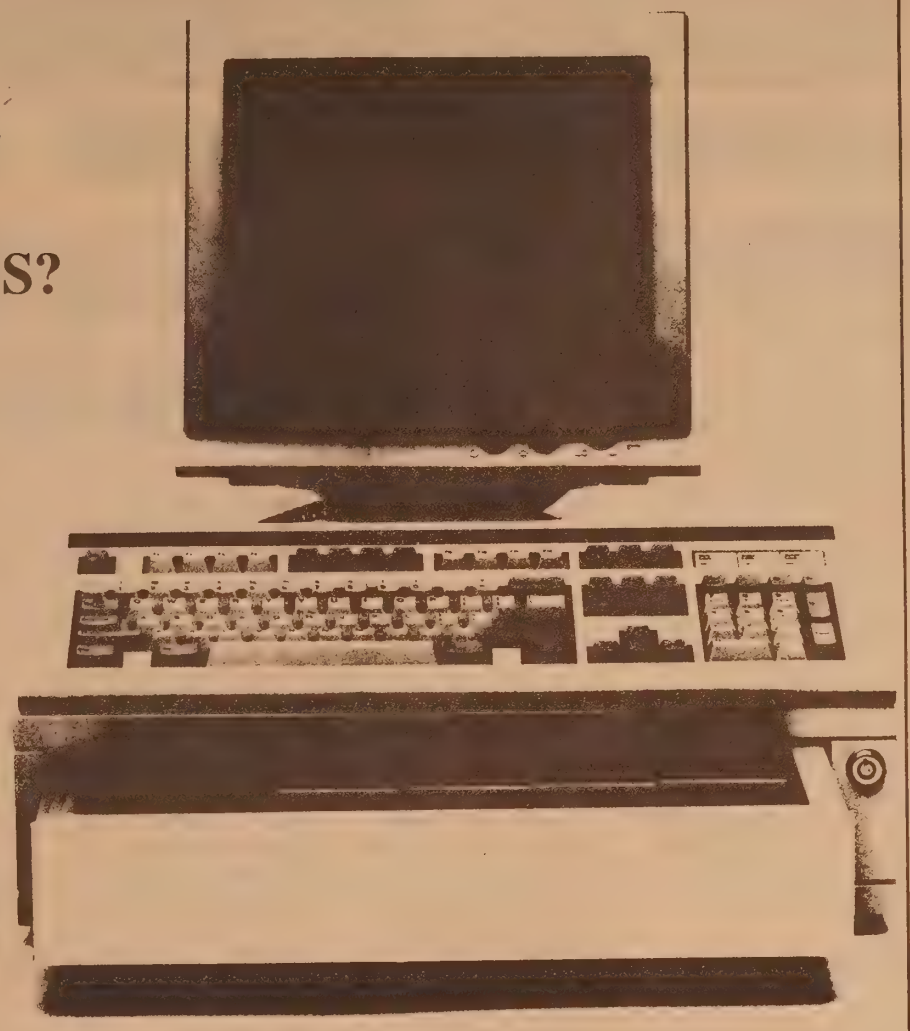

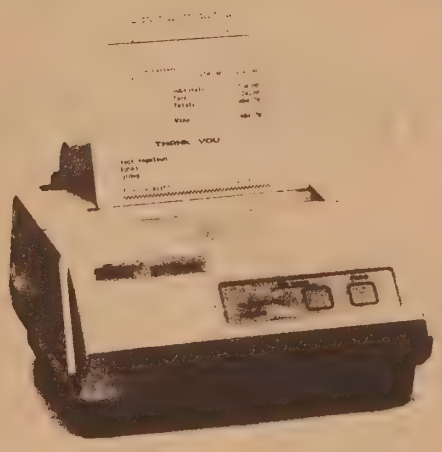

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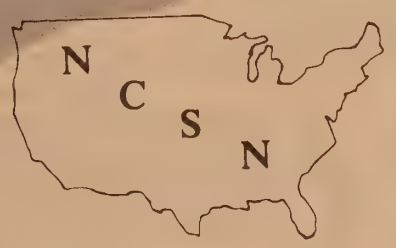

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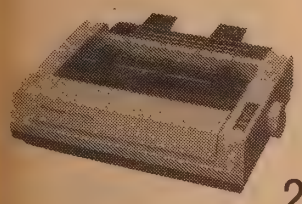

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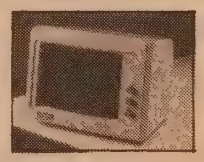

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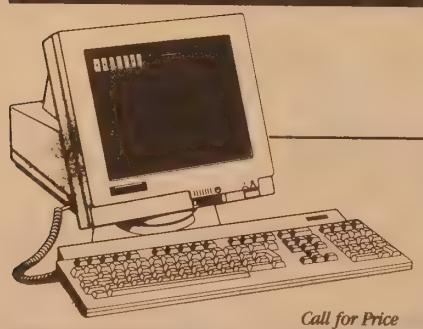

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Desktop Publishing: Trend Or Fraud?

A Study In Contrasts Via MCI (It Happened in 1987!)

Most people who read a Dvorak column realize that it's one of many columns written during the month and only part of a bigger picture I try to paint. The most interesting aspects of the picture are often the sketches which never are seen. This means items, letters, and observations that never get printed for one reason or another. Here's a couple of contrasting (and interesting) letters sent me that I wish I could turn into columns.

The first is the typical, "You don't know what you're talking about" letter. This one was the condescending "You don't know what you're talking about, but I like you anyway" letter. It concerned nothing more than a mention I made in *PC Magazine* about desktop publishing. It came in over MCI Mail (note the date).

Date: Thu Jan 08, 1987 8:04 am EST
From: Media Net Ltd. / MCI ID: 299-6554
TO: John Dvorak / MCI ID: 318-4192
January 5, 1987

Dear John:
I read your Inside Track column in the January 27th issue of PC Magazine *with great interest. It seems you and other editors at* PC Magazine *are starting to push Microsoft's* Windows *as a standard for Desktop Publishing. As an integrator in a field of Computer Assisted Publishing I've got some real questions about this. First of all, and I'm not the first to say this, Desktop Publishing isn't a market as much as it's a technique. I believe that the market will disappear by the end of the year as a lot of these functions are introduced into the more popular word processing packages. This will be particularly true as more software vendors add PostScript support.*

So what this leaves us with is the world of "real publishing" which is not particularly well served by Microsoft's Windows. *For publishing applications, an MS-DOS environment is already stretching things anyway, therefore who needs* Windows? *The work that is being done by GSS and their support of the CGI Standard better serves the publishing industry.*

This is somewhat of a lament because there isn't any graphics environment that really serves the professional publishing. None of these environments are addressing the problems of font exchange, file exchange or, God forbid, the whole issue of process color.

CGI, however, has the advantage of not being locked into any particular operating system. This is important to the high end of the marketplace where Apollo or Sun types of workstation are required. Let me put this another way—professional publishing calls for some heavyweight hardware and software. Are you or any of the editors at PC Magazine *ready to give up your Atex system and trade it in for* PageMaker*?!*

Please don't take this as criticism, it's not meant to be. You and the other editors represent the most independent and accurate view of the PC and compatible marketplace. I get a headache trying to figure out what to do about a "Graphics Environment"; some direction would be better then none. Happy New Year, Jordan Glogau

I still scratch my head when reading this, especially when nobody in the personal computing arena thinks that *PageMaker* was ever designed to run a newspaper or large magazine! It's not untypical of the interesting letters and memos you get over MCI, though. In that same year I got this Press Release/memo that I should have passed to the public. It seems to balance the first note in some unusual way:

Date: Sun Oct 25, 1987 1:34 am EST
**RECEIPT From: Wes Thomas PR/ MCI ID: 224-4194*

TO: John C. Dvorak / MCI ID: 318-4192
Subject: Instant books

First "instant desktop-published books" published in Canada; McCutcheon offers "free instant typesetting for book authors" at CEPS

BOSTON, Oct. 26, 1987—Want to publish an instant book on a hot new topic—the stock market crash, for instance? Now's your chance to have it typeset—free. McCutcheon Graphics of Toronto, one of Canada's largest prepress suppliers to the graphic arts industry, claims it can publish any text-only book in under an hour and is looking for authors to prove it. The company is offering free typesetting to book authors who want to create the first U.S. "instant desktop-published books" during CEPS (and afterwards until the end of the year) to promote the company's PageOne *automated book typesetting software.*

*Simply bring in a manuscript produced on a Macintosh computer (*Word *or* MacWrite *format) to booth 934 and select, from a single menu, one of 50 templates. According to Thad McIlroy, McCutcheon Electronic Publishing Systems Product Manager, the rest is totally automatic—right up to camera-ready galleys (master pages, ready for printing).*

Desktop publishing is alive and well, technique or no technique. Sorry, Jordan, but Aldus, Adobe and the rest are making more money than ever.

"We have all the elements at CEPS to publish a book in under an hour: PageOne *for typesetting, high-speed laser printers, and even automated binding systems," says McIlroy.* PageOne *fully automates three expensive, time-consuming bottlenecks in book production: book design, typesetting, and proofreading of typeset galleys. The key is its templates, representing the 50 most common book designs. The author or publisher simply selects a book design from a catalog—a sort of "design-by-number" approach. The program is appropriate for books without illustrations, such as novels and simple non-fiction books.*

First instant desktop-published books: Canadian book publisher Lester & Orpen Dennys has already used PageOne *to create four "instant desktop-published books":* The Solitary Outlaw, Parachute Ward, Brazilian Journal, *and* Tranter's Tree, *all published this year.*

The trick to achieving book-publishing quality is to laser print at 125% enlargement and then photostat-reduce at 80% to get sharper type," he said. "I challenge anyone to tell the difference in printing and design quality between these books and any other one in a book store without a magnifying glass." For demanding publishers, PageOne *can also be used with high-quality, slower typesetters such as the 2540-dots-per-inch Linotronic 300.*

The second memo is the typical press release that I never use in my columns (until now). Maybe all press releases should be held for at least one year before use. Whatever the case, desktop publishing is alive and well, technique or no technique. Sorry, Jordan, but Aldus, Adobe and the rest are making more money than ever. ■

John C. Dvorak graduated from the University of California. He is a contributing editor of PC magazine and MacUser, considered by many to epitomize the contrarian view of things—a charge that he vehemently denies. Dvorak's motto is: If you have nothing nice to say, then don't say anything at all.

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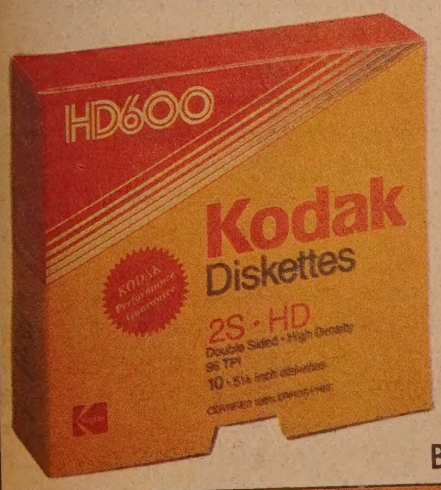

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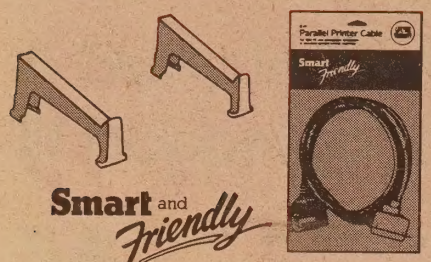

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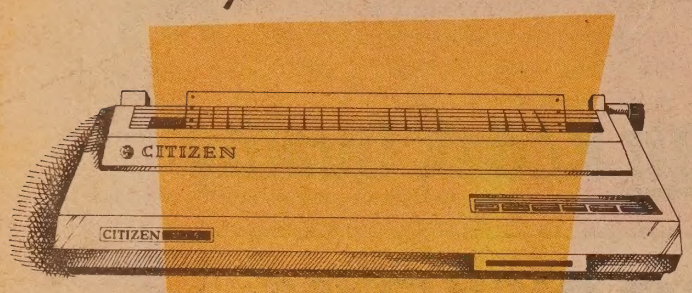

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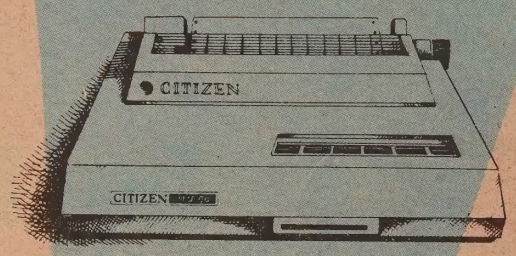

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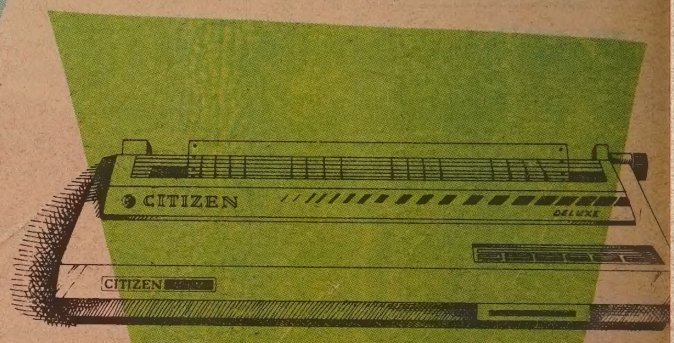

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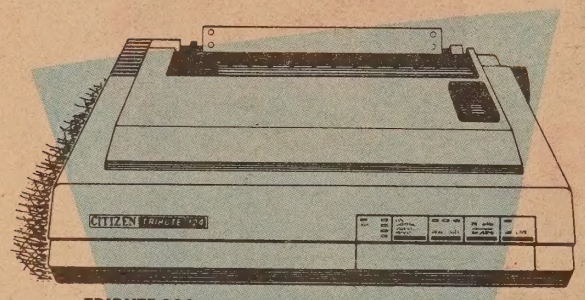

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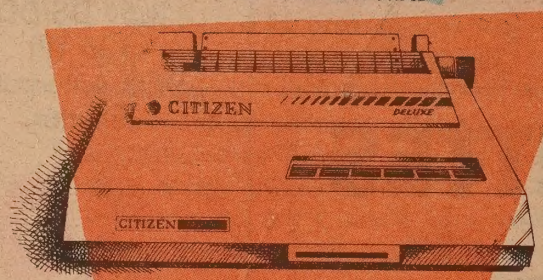

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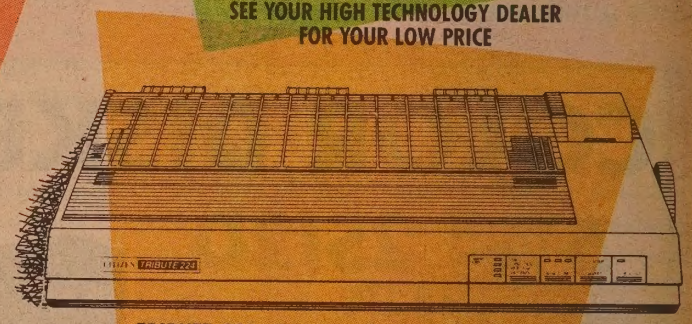

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